VOLUME 14

Case 4:23-cv-00830-O Document 77-14 Filed 12/01/23 Page 2 of 117 PageID 3554



U.S. Department of Justice

Bureau of Alcohol, Tobacco, Firearms and Explosives

Firearms Technology Industry Services Branch

Martinsburg, WV www.atf.gov

DEC 0 7 2017

907010:DLH 3311/307369 A



Dear

This refers to your correspondence to the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), Firearms Technology Industry Services Branch (FTISB), which accompanied your submitted sample of an AR-type firearm with modified fire control components you state are designed as a "trigger reset device." Specifically, you requested an examination and classification of this sample with regard to the amended Gun Control Act of 1968 (GCA) and the National Firearms Act (NFA).

As background, the GCA, 18 U.S.C. § 921(a)(3), defines the term "firearm" to include "...any weapon (including a starter gun) which will or is designed to or may readily be converted to expel a projectile by the action of an explosive...[and]...the frame or receiver of any such weapon..."

The GCA, 18 U.S.C. § 921(a)(23), defines the term "machinegun" as...

"The term "machinegun" has the meaning given such term in section 5845(b) of the National Firearms Act (26 U.S.C. 5845(b))."

Further, the NFA, 26 U.S.C. § 5845(a), defines the term "firearm" to include ...(6) a machinegun.

Additionally, the NFA, 26 U.S.C. § 5845(b), defines "machinegun" to mean:

...any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger. The term shall also include the frame or receiver of any such weapon, any part designed and intended solely and exclusively, or combination of parts designed and intended, for use in converting a weapon into a machinegun, and any combination of parts from which a

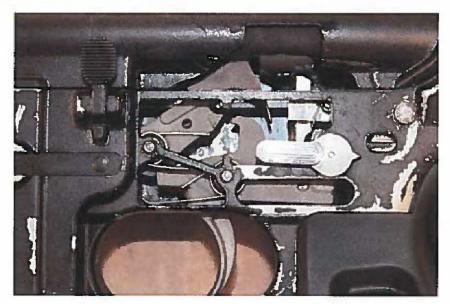
machinegun can be assembled if such parts are in the possession or under the control of a person.

The submitted device is described by you as a "trigger reset device." You further describe the design and function of the device as "designed to aid a shooter's ability to successfully reset the trigger, allowing the shooter to again pull the trigger rearward for quick follow up shots."

The physical characteristics and identity of the submitted sample are provided below:

Submitted Sample:

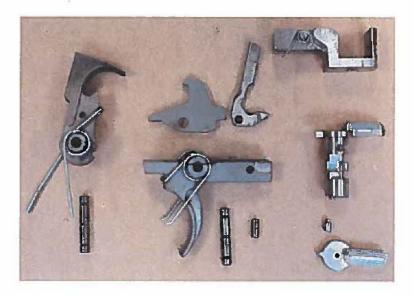




The submitted sample examined by FTISB personnel consists of a homemade .223-5.56 caliber AR-type rifle, serial number 51212, which is equipped with the following items (see photographs):

- A modified AR-type semiautomatic trigger.
- A modified AR-type semiautomatic hammer.

- A modified AR-type semiautomatic disconnector.
- A modified three-position AR-15 type selector lever.
- · A "trigger reset lever."
- A "trigger reset lever stop."
- · A "trigger reset lever stop spring."
- · Top and bottom bolt carrier inserts.



The written correspondence received with the sample states you do not believe this combination of parts which you have designed should be classified as a "machinegun" because they function, in your opinion, the same way as a bump-fire or slide-fire device. You state: "The parts I am submitting merely reset the trigger so it is ready for the next pull and do not result in the firearm shooting automatically more than one shot by a single function of the trigger."

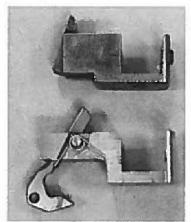
For your information, a bump-fire type device generally operates when attached to an unmodified semiautomatic, AR-type firearm in the following manner:

When operated, a shooter must apply forward pressure to the forward handguard/fore-end of the AR-type rifle with the support hand. This brings the receiver assembly forward to a point at which the trigger can be pulled by the firing hand, which remains stationary. If sufficient forward pressure is not applied to the handguard with the support hand, the rifle can only be fired in a conventional semiautomatic manner with the firing hand. Forward pressure, supplied by the shooter, is necessary to perform "bump-fire" because the reciprocation of the receiver assembly is necessary to reset the trigger and fire subsequent rounds.

The FTISB examination of "bump-fire" type devices indicate that if, as a shot is fired and the shooter provides a sufficient amount of pressure to the handguard/gripping surface to counter the recoil, an AR-type rifle assembly will come forward until the trigger re-contacts the shooter's stationary firing-hand trigger finger, allowing a subsequent shot to be fired.

In this manner, the shooter pulls the upper assembly forward to fire each shot, such that the firearm cannot shoot automatically more than one shot, without manual reloading, by a single function of the trigger. The analysis as to whether a shooter releases the trigger and consciously pulls the trigger a second time is unnecessary in such cases because the firearm is not functioning "automatically." Our examination of the submitted sample found that it did not function in this manner; rather, the firearm included an automatic function.

Examination of the submitted sample and fire control components revealed an obvious similarity between an AR-15 type "drop-in auto-sear" (DIAS) and the submitted trigger reset lever, trigger reset lever stop, and trigger reset lever stop spring (see photograph below). ATF has previously classified the DIAS as a part designed and intended, solely and exclusively for use in converting a weapon into a machinegun. Thus, the DIAS is a machinegun. Both the DIAS and the "trigger reset device" utilize a lever which is tripped when the bolt carrier returns forward after a round is discharged. They differ, however, in that a DIAS holds the hammer rearward until it is tripped by the bolt carrier; whereas your trigger reset lever forces the semiautomatic disconnector to release the hammer when it is tripped by the bolt carrier.



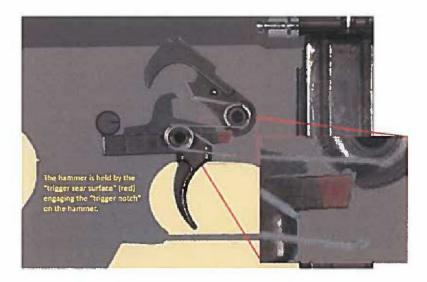
AR-15 drop-in auto-sear (top) compared to "trigger reset device" (bottom)

When the selector switch on the submitted sample is placed into the third position (3 o'clock), and the trigger is pulled and the weapon is *slowly cycled*, the return of the bolt carrier forward pushes the trigger reset lever down, forcing the shooter's finger forward while pulling the semiautomatic disconnector away from the rear hammer notch. When performed slowly, the cycling of the weapon pushes the shooters finger forward enough to engage the trigger sear surface on the bottom hammer notch.

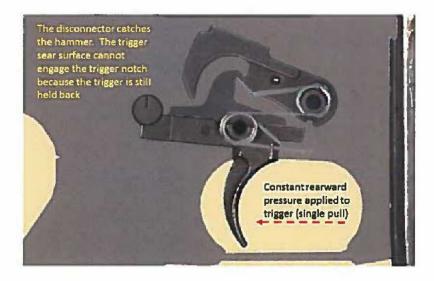
However, function testing the submitted sample by releasing the bolt carrier at full speed prevents the trigger from engaging the hammer notch and results in automatic (machinegun) operation. Once the hammer is pushed to the rear when the rifle recoils, the hammer is briefly retained by the disconnector until the trigger reset lever pushes the trigger downwards, subsequently forcing the operator's trigger finger forward and disengaging the disconnector.

This is a vital difference between the submitted sample and typical semiautomatic operation. In semiautomatic operation, a shooter must release the trigger to "reset" the firearm for a subsequent shot. The functioning of the submitted sample negates this need and performs this function automatically, forcing the finger to move forward and subsequently releases the hammer, allowing it to again be retained by the trigger sear surface for a subsequent shot to be fired. A second shot is then fired because the shooter has retained a single, constant pull that again releases the hammer once the trigger reset lever stops pushing downward. Actual test firing with live ammunition confirmed this automatic operation; that is, the weapon shoots automatically more than one shot, without manual reloading, by a single function of the trigger.

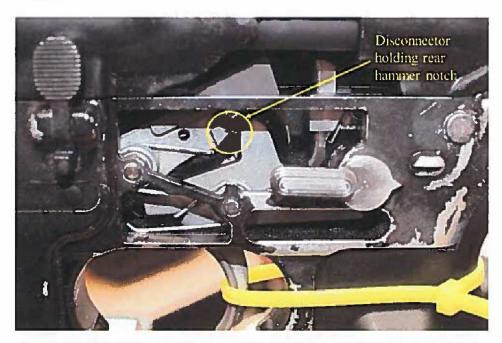
The hammer and trigger sear surface are shown below on an unmodified semiautomatic AR-type firearm for reference:

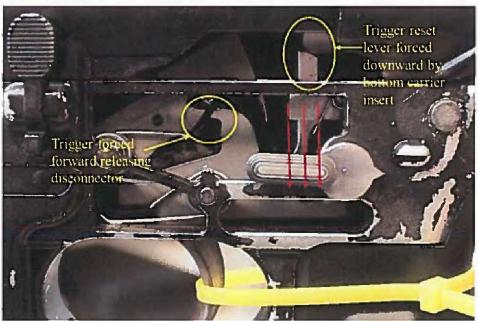


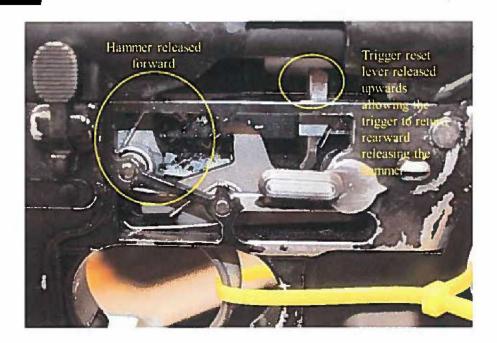
The disconnector engaging and holding the hammer on an unmodified semiautomatic AR-type firearm as shown below for reference:



In the submitted sample, the trigger reset lever, which is pinned to the trigger, is forcefully pushed down by the bottom bolt carrier insert when the bolt carrier returns to the forward inbattery position. As the trigger reset lever is attached to the rear of the trigger, the trigger is forced forward, even as rearward pressure is maintained. This forward movement of the trigger disengages the disconnector from the rear hammer notch. With rearward pressure maintained, the trigger sear surface does not engage the hammer "trigger notch" and the hammer is released forward, continuing the firing cycle. The sample will continue to operate automatically until the ammunition supply is exhausted or a malfunction occurs.







The submitted trigger reset device is specifically designed, with the use of the trigger reset lever, to move the shooter's finger and force the disconnector to release the hammer. Throughout this process, the shooter has never released the trigger itself, instead applying a single, constant pull. When the trigger reset lever downward pressure is released, the shooter's constant trigger pull again releases the hammer and causes a second round to fire.

A single pull of the trigger by the shooter therefore starts a firing sequence in which semiautomatic operation is made automatic by the trigger reset device. ATF has long held that a single pull of the trigger is the same as a "single function" of the trigger. Similarly, a single release of the trigger is a single function of the trigger. In this way, certain "binary" triggers increase the rate of fire but are not machineguns because they fire only a single shot when the trigger is pulled, and a single shot when the trigger is released.

The submitted trigger reset device is designed to utilize the trigger reset lever to automatically continue the firing sequence and causes a firearm to shoot automatically by the automatic resetting of the firearm hammer. With constant pressure or a single pull of the firearm trigger, the host AR-type firearm shoots automatically more than one shot, without manual reloading, by a single function of the trigger. Such an item or device is classified as a combination of parts designed and intended, solely and exclusively, for use in converting a weapon into a machinegun; thus a "machinegun" as defined in 26 U.S.C. § 5845(b).

In order to ensure that the submitted sample was actually firing more than one shot, without manual reloading, with a single function of the trigger, rather than firing a single shot with each function of the trigger, the following procedure was followed:

- A common 8-inch plastic zip-tie was installed around the rear of the grip and the front of the sample's trigger.
- The zip-tie was gradually tightened until the trigger was retracted just enough to allow the hammer to fall.
- With the trigger retained in this position, the bolt assembly was retracted and retained in an open position, with the aid of the bolt catch.
- A five-round ammunition load was placed into the sample's magazine and the magazine was inserted into the firearm.
- Without touching the trigger (which was being retained in a fixed position by the plastic zip-tie), the bolt catch was depressed allowing the firearm's bolt to travel forward and chamber a cartridge. Upon chambering the cartridge, the weapon fired the entire fiveround ammunition load automatically without the trigger being repeatedly pulled and released.
- This same test was repeated several times with a five-round ammunition load and once
 with a fifteen-round ammunition load. In all instances, the submitted sample discharged
 its entire ammunition load upon initiating the firing sequence by depressing the bolt
 release, thus allowing the bolt assembly to move forward and both chamber and fire
 cartridges repeatedly.

FTISB testing with the trigger of the submitted sample pictured on the previous page, retained in the static position shown with a plastic zip-tie, revealed that the submitted fire control components will allow a semiautomatic AR-15 type firearm to fire automatically more than one shot, without manual reloading, by a single function of the trigger.

As stated above, Federal law defines "machinegun," in relevant part, as "any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger" as well as a "combination of parts designed and intended, for use in converting a weapon into a machinegun." Legislative history for the NFA indicates that the drafters equated a "single function of the trigger" with "single pull of the trigger." National Firearms Act: Hearings Before the Comm. on Ways and Means, House of Representatives, Second Session on H.R. 9066, 73rd Cong., at 40 (1934). Therefore, ATF has long held that a single function of the trigger is a "single pull" or alternatively, a single release of a trigger. Therefore, a firearm is not a machinegun if a projectile is expelled when the trigger is pulled and a second projectile is expelled when the trigger is released.

FTISB has also evaluated similar devices which have prevented the trigger from positively resetting and resulted in a "hammer-follow" scenario. A device designed to prevent the hammer from positively resetting could cause a firearm to shoot automatically more than one shot,

without manual reloading, by a single function of the trigger, and would also be classified as a combination of parts designed and intended, solely and exclusively, for use in converting a weapon into a machinegun; thus a "machinegun" as defined in 26 U.S.C. § 5845(b).

Please be aware that if a device is designed to assist in preventing the hammer from positively resetting or which utilizes a spring, electric motor or non-manual source of energy which assists in the automatic resetting of the hammer and causes a firearm to shoot automatically more than one shot, without manual reloading, by a single function of the trigger, such an item or device would be classified as a combination of parts designed and intended, solely and exclusively, for use in converting a weapon into a machinegun; thus a "machinegun" as defined in 26 U.S.C. § 5845(b).

Further, the incorporation of a positive disconnecting or trigger resetting feature alone, does not preclude or remove such a weapon or device from the definition of a "machinegun" as defined in the NFA, 26 U.S.C. § 5845(b). Also, the absence of "hammer-follow" in an AR-type firearm does not exclude such a firearm from being classified as a machinegun. FTISB machinegun classifications are based on the evaluation of the item as submitted and whether the item converts a weapon to shoot automatically, regardless of how reliably it shoots automatically more than one shot, without manual reloading, by a single function of the trigger.

Consequently, the submitted sample is a "machinegun" as defined in the NFA. It is also a "firearm" as defined in the NFA, and is subject to all NFA provisions.

Further, since May 19, 1986, the GCA permits only properly licensed manufacturers and importers to register new machineguns; private, unlicensed individuals may not do so (See 18 U.S.C. § 922(o)).

An unregistered machinegun is a contraband firearm and possession of such a weapon is unlawful. The submitted firearm is not registered in accordance with the provisions of the NFA and it cannot be returned to you.

Instead, FTISB is obliged to request forfeiture of the unregistered sample you have submitted.

We trust that the foregoing has been responsive to your request. If we can be of any further assistance, you may contact us at any time.

Sincerely yours,

Michael R. Curtis

Chief, Firearms Technology Industry Services Branch

Mr. Michael Curtis

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Firearms & Ammunition Technology Division

Re: Classification of Parts

244 Needy Road

Martinsburg, WV 25405

EVAL. 307-369

AUG 0 4 2011

8/3/17

Dear Mr. Curtis:

I am enclosing with this letter the following items for evaluation and classification by the Firearms and Ammunition Technology Division (FATD): AR-15 RTFLE - T-15

1. Trigger:

Mil-spec trigger with 2 modifications (drawing 1). A hole is added to the back end of the trigger so that the "Trigger Reset Lever" can be attached. A slot is cut in the back end of the trigger so that the "Trigger Reset Lever" has room to tip rearward.

2. Hammer:

Mil-spec hammer with 1 modification (drawing 2). Material from the top end of the hammer is removed to provide clearance.

3. Disconnector:

Mil-spec disconnector with 1 modification (drawing 3). The back end of the disconnector is cut off to allow for clearance.

4. Trigger Reset Lever:

A newly developed part (drawing 4) that assists in resetting the trigger. It forces the sear to engage with the hammer notch.

5! Trigger Reset Lever Stop:

A newly developed part (drawing 5) that stops the forward movement of the Trigger Reset Lever.

6. Trigger Reset Lever Stop Spring:

A newly developed part (drawing 6) which keeps forward pressure on the Trigger Reset Lever.

7. Top Carrier Insert:

A newly developed part (drawing 7) that is used to hold the Bottom Carrier Insert in place.

8. Bottom Carrier Insert:

A newly developed part (drawing 8) that forces the Trigger Reset Lever down, causing the sear to engage the hammer notch.

Safety Selector:

Re-designed from the mil-spec version (drawing 9). It allows for the firearm to be operated in 3 modes. Safe, semi-auto or semi-auto reset.

- Lower receiver for semiautomatic AR-15 rifle with cutaway view, serial number 51212, with parts 1-9 installed.
- 11. Upper receiver assembly for semiautomatic AR-15 rifle with cutaway view.

I am requesting an examination of these items and classification under the Gun Control Act of 1968 (GCA)sen4:129-National Garboc Arth (NT-1Vhelicited all 2/Dh/23en Rational Control Act of 1968 designed to aid a shooter's ability to successfully reset the trigger, allowing the shooter to again pull the trigger rearward for quick follow up shots.

I believe you will find these parts are NOT regulated as a firearm under the Gun Control Act or the National Firearms Act. Similarly, I believe you will find the combination of the parts and the semiautomatic rifle are not regulated as a "machinegun" under the GCA or NFA. I believe the parts function in the same manner as the bump-fire or slide fire devices FATD has previously classified as firearm parts that are not regulated as a firearm under the GCA or NFA. The parts I am submitting merely reset the trigger so it is ready for the next pull and do not result in the firearm shooting automatically more than one shot by a single function of the trigger.

I have also prepared two YouTube videos which demonstrate how the parts and rifle function together. You may access the videos at the following web address:

Slow Motion Assembly -

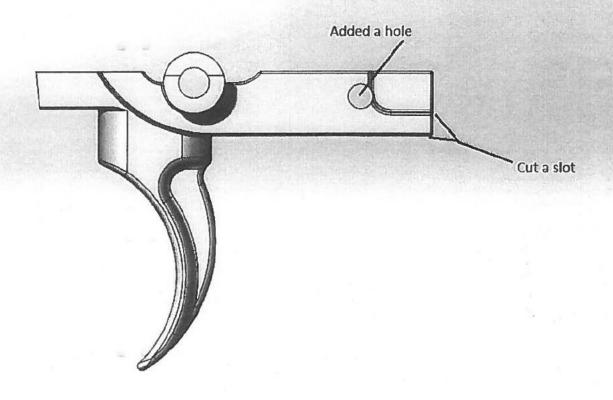
Please be advised that the law firm Reeves & Dola has been retained by me to assist me in this classification request. I hereby authorize disclosure of information relating to this matter to attorneys Teresa Ficaretta and Johanna Reeves.

If you have questions about this request, do not hesitate to contact me at

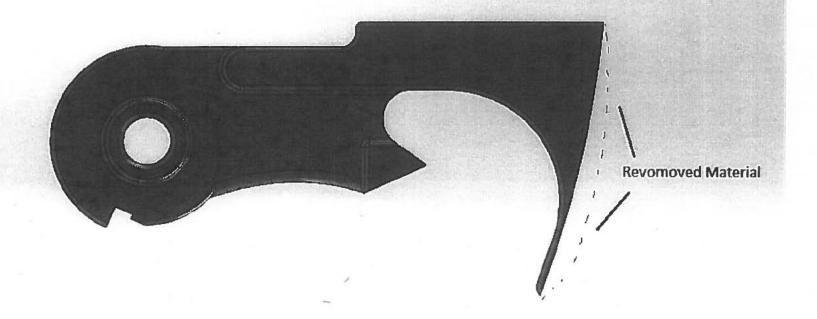
Sincerely,



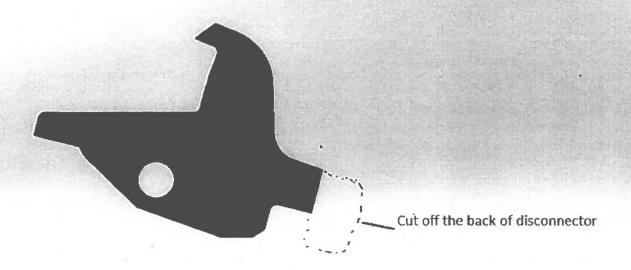
Standard Mil-Spec Trigger with 2 Modifications



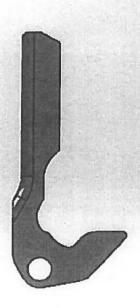
Standard Mil-Spec Hammer with 1 Modification



Standard Mil-Spec Disconnector with 1 Modification



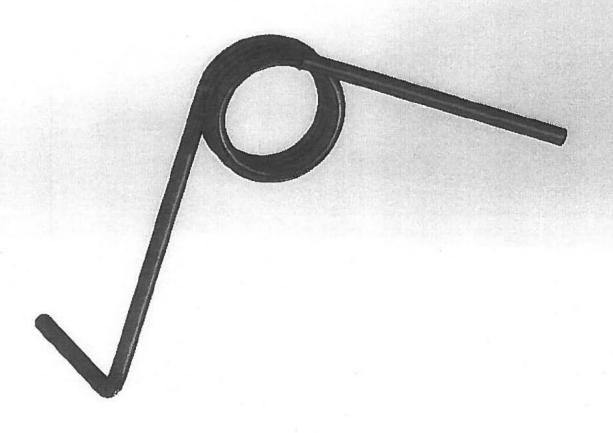
Trigger Reset Lever



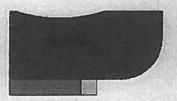
Trigger Reset Lever Stop



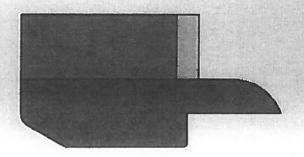
Trigger Reset Lever Stop Spring



Top Bolt Carrier Insert



Bottom Bolt Carrier Insert



3 Position Safety Selector





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U.S. Department of Justice

Bureau of Alcohol, Tobacco, Firearms and Explosives

Firearms Technology Industry Services Branch

Martinsburg, WV www.atf.gov

JAN 19 2018

907010:DLH 3311/306032



This refers to your correspondence to the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), Firearms Technology Industry Services Branch (FTISB), which accompanied your submitted sample of an AR-type firearm mounted in a "device" incorporating a spade grip. Specifically, you requested an examination and classification of this sample with regard to the amended Gun Control Act of 1968 (GCA) and the National Firearms Act (NFA).

As background, the GCA, 18 U.S.C. § 921(a)(3), defines the term "firearm" to include "...any weapon (including a starter gun) which will or is designed to or may readily be converted to expel a projectile by the action of an explosive...[and]...the frame or receiver of any such weapon..."

The GCA, 18 U.S.C. § 921(a)(23), defines the term "machinegun" as...

"The term "machinegun" has the meaning given such term in section 5845(b) of the National Firearms Act (26 U.S.C. 5845(b))."

Further, the NFA, 26 U.S.C. § 5845(a), defines the term "firearm" to include ...(6) a machinegun.

Additionally, the NFA, 26 U.S.C. § 5845(b), defines "machinegun" to mean:

...any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger. The term shall also include the frame or receiver of any such weapon, any part designed and intended solely and exclusively, or combination of parts designed and intended, for use in converting a weapon into a machinegun, and any combination of parts from which a machinegun can be assembled if such parts are in the possession or under the control of a person.

The physical characteristics and identity of the submitted sample are provided below, along with a description of the markings:



- No buttstock.
- Cut-down pistol grip.
- · Fires from the closed-bolt position.
- Magazine-fed.
- · Fired utilizing spade grip assembly.

Markings:

Left side of magazine well:



- HEBRON, KY
- AM-15
- MULTI CAL
- 16099132

On top of barrel:

- 5.56 NATO
- 1:7 H-BAR
- PSA

The selector markings on the left side of the receiver:

- SAFE
- SEMI

Your submitted "device" is a mount for a modified AR-type firearm which can be used with a tripod, bipod, shooting rest or barricade. The "device" was submitted to FTISB with a tripod mount and a traverse and elevation (T&E) mechanism. The "device" allows the use of spade grips, redesigning the weapon to fire by using the buffer tube as the trigger in place of the traditional AR-type trigger.

The device incorporates an AR-type rifle which has been modified in the following ways:

- · Gas port on the barrel has been enlarged to 0.078 inches.
- Pistol grip cut down to allow room for attachment of T&E mechanism.
- Side charging bolt carrier and upper assembly installed.
- Ambidextrous sling mount installed to attach "safety springs."
 - Buttstock removed and rubber cap installed onto back of buffer tube.

The "device" has a pair of rollers (see attached photographs), the first in front of the trigger and the second below the trigger guard. The first roller engages the traditional trigger of the AR-type firearm when a user fires the weapon by pushing forward on the buffer tube. The second roller simply holds the AR-type firearm in line, allowing it to roll back and forth during the firing sequence.

Additionally, the "device" incorporates a pair of "safety springs," connected from the installed dual sling mount to the spade grip attachment. These springs attempt to prevent the AR-type firearm from slamming forward into the traditional trigger when the weapon is charged using the side-cocking bolt carrier. However, several unintentional discharges occurred when chambering the weapon while the selector was not in the safe position. With the springs disconnected, unintentional weapon discharges occurred consistently each time the weapon was charged and the selector not in safe position.

You stated that the springs do not affect the operation of the "device" in any way, they only act as a safety mechanism. The FTISB examination found this to be a correct statement, as the "device" was tested with and without the springs attached, and operated in the identical manner.

The "device" incorporates a redesign of how a traditional AR-type firearm operates. The traditional AR-type trigger is engaged by the roller installed in front of it, while the device utilizes the buffer tube as its trigger. Therefore, when examining the device for "machinegun" function, it is this redesigned trigger that must be examined.

In your correspondence, you state:

"To fire the device, grab the spade grips with both hands, and press on the rubber pad (which is affixed to the buffer tube) with one or both thumbs. You can press and release for a single shot, or repeatedly press forward for multiple shots."

FTISB found that by pushing forward on the buffer tube (which functions as the trigger in this case), the weapon would fire multiple shots for as long as pressure was applied, that is, as long as the shooter does not release pressure. In this case, the user is not resetting the trigger through "bump-fire," but is in fact firing more than one shot by a single function of the trigger, in that a single constant, steady push results in the firing of more than one round. Additionally, the device functions automatically in that shooter performs no other action to reset the trigger – the device uses the recoil of the firearm for this purpose. Therefore, the "device" is a "combination of parts designed and intended, for use in converting a weapon into a machinegun."

Consequently, the submitted device is a "machinegun" as defined in the NFA. It is also a "firearm" as defined in the NFA, and is subject to all NFA provisions.

Further, since May 19th, 1986, the GCA 18 U.S.C. § 922(o) permits only properly licensed manufacturers and importers to register new machineguns; private, unlicensed individuals may not do so.

An unregistered machinegun is a contraband firearm, and possession of such a weapon is unlawful. Since the submitted firearm is not registered in accordance with the provisions of the NFA, it cannot be returned to you.

Instead, FTISB is obliged to request forfeiture of the unregistered "device" you have submitted. If you believe that our determination is in error, you have the opportunity to file a claim. You also have the opportunity, alternatively, to abandon the item to ATF.

To facilitate the return of the AR-type firearm, tripod, and T&E mechanism, please provide FTISB with an appropriate FedEx or similar return shipping label. For your convenience, this can be emailed to fire_tech@atf.gov and should reference #306032. Please provide the return shipping label within 60 days of receipt of this letter or the samples will be considered abandoned and disposed of in accordance with the needs of the Federal Government.

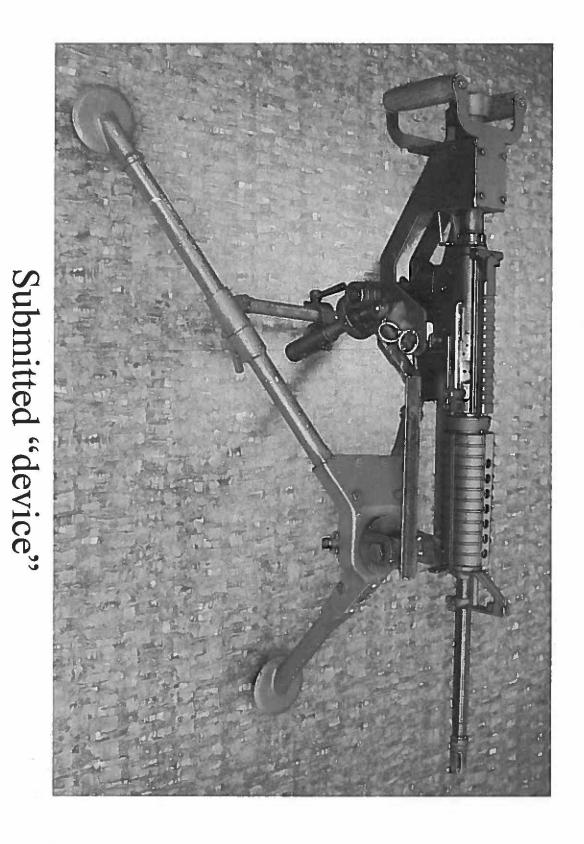
We trust that the foregoing has been responsive to your request. If we can be of any further assistance, you may contact us at any time.

Sincerely yours,

Michael R. Curtis

Chief, Firearms Technology Industry Services Branch

Enclosures





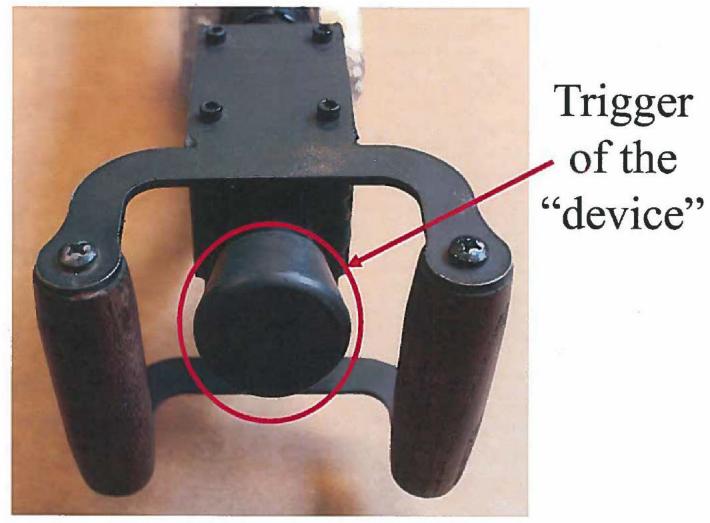
Submitted "device"



Submitted "device"



Submitted "device"



Spade grip assembly



Side-charging bolt carrier and upper assembly

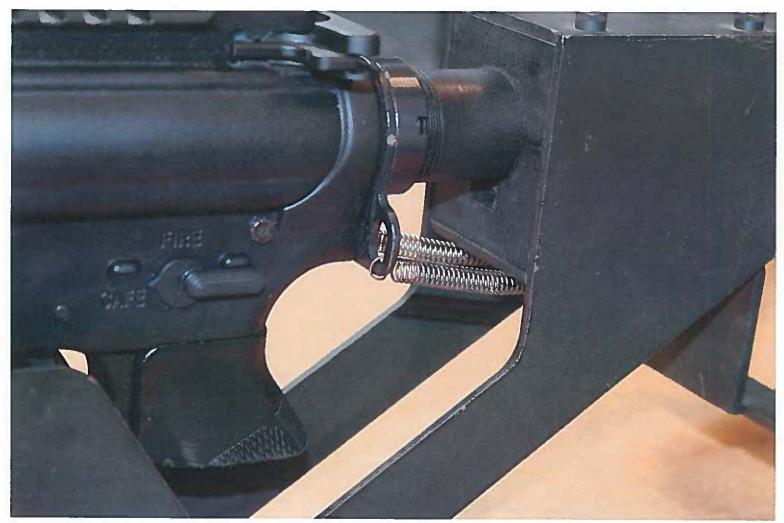


Redesigned fire control system

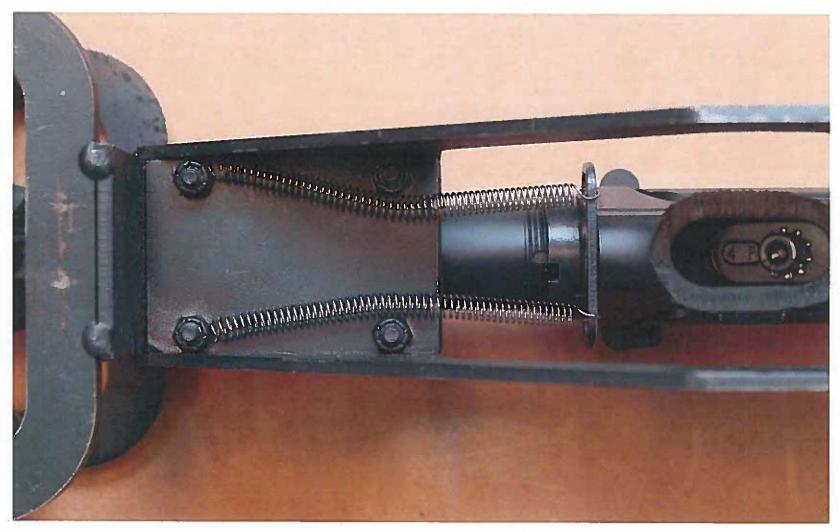


Roller in front of traditional trigger

Redesigned fire control system



"Safety springs"



"Safety springs"



Disassembled "device" components



Placement of two rollers





306-032



March 27th 2017

Bureau of Alcohol, Tobacco, Firearms, and Explosives Firearms & Ammunition Technology Division 244 Needy Road Martinsburg, WV 25405 SN: 160 99 132

ANDERSON Manufacturing

MODEL: AM-15

AR-15-M-2 Mount

To Whom It May Concern,

AR15 rifle or pistol.

Please find the enclosed assembly, consisting of an AR15 type firearm (serial # 16099132), an M2 tripod and T&E mechanism, and a device (herein referred to as "the device") designed to add spade grips to an

I am sending this as requested by the Firearms & Ammunition Technology Division in an email to me on 4/18/16. I am requesting a determination of the classification of the device.

The concept of this device is that it adds spade grips to an AR15 rifle or pistol and allows for controllable firing using the shooter's thumbs, rather than trigger finger. The device can be used in conjunction with a tripod, bipod, shooting rest, or barricade.

The device could be especially useful for someone who lacks the strength to shoulder an AR15, or someone with hand injuries or other disability that would make firing an AR15 in the traditional way difficult or impossible.

The device allows the AR15 to slide forward and back, firing in a similar fashion to the SSAR-15 by



The device can work with most mil-spec AR15's, but the particular AR15 enclosed has some modifications to increase reliability. Here is a complete list of modifications:

- Gas port enlarged to 0.078"
- 2. Buffer spring swapped to Sprinco "orange" spring
- 3. Pistol grip removed to allow clearance for T&E mechanism
- 4. Side charging upper receiver and bolt carrier installed
- 5. Sling mount added to attach springs

Please note there are NO modifications to the AR15's fire control group.

There are two extension-type springs on the device which are added for safety. These springs keep the AR15 biased in the rear position, reducing the chance of an accidental discharge. These springs do NOT affect the way the device operates; they are only added as an extra safety measure. In fact, the device can operate with or without the springs installed.

I am familiar with an earlier classification of a device called the Akins Accelerator. This was classified as a machine gun by the ATF because it had a spring that biased the gun forward, allowing the gun to fire in an automatic fashion. It is important to note that the springs on my device bias the gun in the opposite direction from the Akins Accelerator, and are installed for a completely different purpose.

I am requesting a classification on the device itself, and the combination of the device with a semiautomatic AR15 rifle or pistol. If the device were to be sold, it would likely be without an AR15 or tripod, allowing the purchaser to supply their own firearm and bipod or tripod.

To use the device, simply unfold the M2 tripod, and install the device via the quick release pintle mount. It should look like the picture below:



Please note that the T&E (traversing and elevation) mechanism is optional and is not required for the device to function. However it is very useful to hold the firearm in a fixed position for accurate firing.

The firearm can be loaded with any standard .223 or 5.56 ammunition, and will accept standard AR15 magazines.

To fire the device, grab the spade grips with both hands, and press on the rubber pad (which is affixed to the buffer tube) with one or both thumbs. You can press and release for a single shot, or repeatedly press forward for multiple shots.

To manipulate the bolt, use the side charging handle rather than the standard AR15 charging handle.

If you have any questions or need help setting up or firing the assembly, please do not hesitate to contact me.

Since this package contains a title I firearm (the AR15) I am not able to generate a return shipping label. Please contact me to arrange return shipping and I will submit payment by check, money order, or credit card. If necessary I have a local FFL that can receive the package.

I look forward to hearing back from you.



U.S. Department of Justice

Bureau of Alcohol, Tobacco, Firearms and Explosives

Firearms Technology Criminal Branch Report of Technical Examination

	Report of Technical Examination		
1972 1972	244 Needy Road #1600 Martinsburg, WV 25405 Phone: 304-616-4300 Fax: 304-616-4301		
To:	Date: 10/20/202	1	
Special Agent Michael T. Nuttall Bureau of Alcohol, Tobacco, Firearms and Explosi 99 New York Avenue NE	ves UI#: 163080-21	-0006	
MS: 90K-250 Washington, DC 20026	RE: Rare Breed	d FRT-15	
	FTCB#: 2021-676- 317388	RKD Exp.	
Date Exhibit Received: 08/11/2021	Type of Examination Requested:		
Delivered By: FedEx# 7744 8498 2076	Examination, Test, Classification		

Exhibit:

2. Rare Breed Triggers, model FRT-15, no serial number (suspected machinegun).

Pertinent Authority:

Title 28 of the United States Code (U.S.C.) provides the Bureau of Alcohol, Tobacco, Firearms, and Explosives (ATF) the authority to investigate criminal and regulatory violations of Federal firearms law at the direction of the Attorney General. Under the corresponding Federal regulation at 28 CFR. 0.130 the Attorney General provides ATF with the authority to investigate, administer, and enforce the laws related to firearms, in relevant part, under 18 U.S.C. Chapter 44 (Gun Control Act) and 26 U.S.C. Chapter 53 (National Firearms Act). Pursuant to the aforementioned statutory and regulatory authority, the ATF Firearms Ammunition and Technology Division (FATD) provides expert technical support on firearms and ammunition to federal, state, and local law enforcement agencies regarding the Gun Control Act and National Firearms Act.

The amended Gun Control Act of 1968 (GCA), defines the term "**machinegun**" has "the meaning given such term in section 5845(b) of the National Firearms Act (26 U.S.C. 5845(b))." (See 18 U.S.C. § 921(a)(23).)

The NFA, defines "firearm" to mean, in part: "...(6) a machinegun...." (See 26 U.S.C. § 5845(a).)

The NFA, defines the term "machinegun" as follows: "...any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger. The term shall also include the frame or receiver of any such weapon, any part designed and intended solely and exclusively, or combination of parts designed and intended, for use in converting a

Page 2

Pertinent Authority (Cont.):

weapon into a machinegun, and any combination of parts from which a machinegun can be assembled if such parts are in the possession or under the control of a person." (See 26 U.S.C. § 5845(b).)

The National Firearms Act of 1934 (NFA) **Identification of firearms other than destructive devices**. "Each manufacturer and importer and anyone making a firearm shall identify each firearm, other than a destructive device, manufactured, imported, or made by a serial number which may not be readily removed, obliterated, or altered, the name of the manufacturer, importer, or maker, and such other identification as the Secretary may by regulations prescribe." (See 26 U.S.C. § 5842(a).)

27 CFR § 479.11 defines the term "machinegun" and includes, in part: "...For purposes of this definition, the term "automatically" as it modifies "shoots, is designed to shoot, or can be readily restored to shoot," means functioning as the result of a self-acting or self-regulating mechanism that allows the firing of multiple rounds through a single function of the trigger; and "single function of the trigger" means a single pull of the trigger and analogous motions. The term "machinegun" includes a bump-stock-type device, i.e., a device that allows a semi-automatic firearm to shoot more than one shot with a single pull of the trigger by harnessing the recoil energy of the semiautomatic firearm to which it is affixed so that the trigger resets and continues firing without additional physical manipulation of the trigger by the shooter."

Background:

ATF-FTISB previously examined a "forced reset trigger" from FTISB 307385) received in 2017 from located in Buda, Texas. The device was accompanied by paperwork submitted by Rick Vasquez Firearms LLC. In November of 2017 (see attachment B), FTISB noted that what appeared to be a patent drawing depicting a https://doi.org/10.1007/james-trigger , and inquired if a patent had been applied for on the device, and if so, under what name and patent number (see attachment C). FTISB was informed that the patent for the general mechanism was "Flex-Fire Technology US 9,568,264" (see attachment D). Note that this and two additional "Flex-Fire" patents are cited in a later patent obtained by
The above patent's applicant/inventor is listed as Thomas Allen Graves of Buda, Texas. US patent 9,568,264 stated; "It is possible by the application of Flex-Fire Technology (FFT) to have a high energy trigger reset system. A high energy trigger reset system implies a trigger that is reset by direct mechanical reaction to a gun bolt without necessity of a spring system limiting trigger reset energy. This patent document also contained the statement; "This invention is also primarily focused on striker fired semi-automatic arms as opposed to hammer fired semi-automatic arms." FTISB notes that the grather than a striker fired ignition system.
ATF-FTISB's evaluation of the AR1 Trigger is detailed within FTISB letter 307385 dated August 28, 2018 (see attached E). The first paragraph of the accompanying paperwork received with the AR1 trigger included the following statement which was noted within FTISB's response:

"This trigger system works by mechanically pushing the trigger rapidly forward, resetting the finger and trigger to the forward position. This allows the user to make a decision in which they leave rearward pressure

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Page 3

Background (cont.):

off the trigger to stop the firing sequence, or re-engage rearward pressure on the trigger to continue the firing sequence".

ATF-FTISB's response letter (307385) goes on to describe the device evaluated and testing preformed, and utilized graphic images provided with the device. The body of this response letter also included the following:

Federal law defines "machinegun," in relevant part, as "any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger" as well as a "combination of parts designed and intended, for use in converting a weapon into a machinegun." Legislative history for the NFA indicates that the drafters equated a "single function of the trigger" with "single pull of the trigger." National Firearms Act: Hearings Before the Comm. on Ways and Means, House of Representatives, Second Session on H.R. 9066, 73rd Cong., at 40 (1934). Therefore, as you note, ATF has long held that a single function of the trigger is a "single pull" or alternatively, a single release of a trigger. Therefore, a firearm is not a machinegun if a projectile is expelled when the trigger is pulled and a second projectile is expelled when the trigger is released.

As stated above, your own description of the AR1 trigger system includes the following statements, "this trigger system works by mechanically pushing the trigger rapidly forward, resetting the finger and trigger to the forward position. This allows the user to make a decision in which they leave rearward pressure off the trigger to stop the firing sequence, or reengage rearward pressure on the trigger to continue the firing sequence.

Federal courts have noted that automatically means that the weapon "fires repeatedly with a single pull of the trigger." *Staples v. United States*, 511 U.S. 600, 602 n. 1 (1994). "That is, once its trigger is depressed, the weapon will automatically continue to fire until its trigger is released or the ammunition is exhausted." *Id.* Courts have specifically affirmed ATF's interpretation that a single act of the shooter to initiate the firing sequent is a single function of the trigger. *Akins v. United States*, 312 F. App'x 197, 200 (11th Cir. 2009); *Freedom Ordnance Mfg., Inc. v. Brandon*, No. 3:16-cv-00243-RLY-MPB (S.D. Ind. Mar. 27, 2018). *United States v. Fleischli*, 305 F.3d 643, 655 (7th Cir. 2002)(in which electronic switch was the trigger when it served to initiate the firing sequence and the minigun continued to fire until the switch was turned off or the ammunition was exhausted). In the *Freedom Ordnance* case, the United States District Court of Indiana confirmed that ATF was not arbitrary and capricious in the classification of an "electronic reset assist device" as a machinegun even though the firearm's trigger reset before each shot by pushing the shooter's finger forward. *Freedom Ordnance Mfg., Inc*, No. 3:16-cv-00243-RLY-MPB. In these cases, a firearm is a machinegun when an internal mechanism or operation automatically forces the individual's finger forward instead of requiring that the shooter release the trigger.

FTISB testing indicated that continuous rearward pressure after the initial pull of the trigger initiates a "firing sequence" which discharges multiple rounds with a single function of the trigger. A device with a trigger that is mechanically forced forward during a cycle of operation or firing sequence, which results in more than one round being fired with a "single function of a trigger," is a

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Page 4

Background (cont.):

machinegun. This type of operation is distinguishable from firearms that have not been classified as machineguns, including those that fire one round when the trigger is <u>manually</u> pulled and one round when the trigger is <u>manually</u> released.

The AR1 is a device which is designed to assist in preventing the hammer from positively resetting (requiring that the shooter release the trigger in order to fire the next round) and causes a firearm to shoot automatically more than one shot, without manual reloading, by a single function of the trigger. This device is a combination of parts designed and intended, solely and exclusively, for use in converting a weapon into a machinegun; thus a 'machinegun' as defined in 26 U.S.C. § 5845(b).

ATF-FATD received an e-mail (see attachment F) from regarding return shipment of the device on September 14, 2018, notes that they have an 07/02 FFL/SOT, and requests the return of the item be delayed until October 2, 2018, because they will be away from the FFL address and will need to submit an ATF FORM 2 (notice of Firearms Manufactured or Imported) on the item, in this case a "machinegun", by the close of the following business day it is received.

A second related FLEX-FIRE TECHNOLOGY patent, US 9,816,772 B2 (see attachment G), also listing Thomas Allen Graves of Buda, Texas as the applicant/inventor was granted on November 14, 2017. This patent notes the earlier FLEX-FIRE TECHNOLOGY patent number 9,568,264 claims priority with both being incorporated herein by reference. This second patent also depicts a striker fired ignition system and contains the statement; "This invention is also primarily focused on striker fired semi-automatic arms as opposed to hammer fired semi-automatic arms."

A third related patent, US 9,939,221 B2, FLEX-FIRE G2 TECHNOLOGY, issued on April 10, 2018, to Thomas Allen Graves of Buda, Texas, is noted to be a continuation -in-part of US Pat. No. 9,816,772 entitled FLEX-FIRE TECHNOLOGY, which is a divisional of U.S. Pat. No. 9,568,264 entitled FLEX-FIRE TECHNOLOGY. This third related patent also depicts a striker fired ignition system (see attachment H).

Next is United States Patent no.: 10,514,223 B1 issued on December 24, 2019, and having the applicant listed as a state of the inventor as Jeffrey Cooper Rounds, both of Buda, Texas (see attachment I). This patent includes illustrations which more closely parallel the Exhibit 2 Rare Breed FRT-15 assembly in its "drop-in" concept, though having differing geometry in its component parts. This patent document acknowledges a similarity with the three previously detailed FLEX-FIRE TECHNOLOGY/FLEX-FIRE G2 TECHNOLOGY patents as follows:

Another device for increasing the rate of semiautomatic fire is shown in U.S. Pat. Nos. 9,568,264; 9,816,772; and U.S. Pat. No. 9,939,221, issued to Thomas Allen Graves. The devices shown in these patents forcefully reset the trigger with rigid mechanical contact between the trigger member and the bolt as the action cycles. This invention, however, does not provide a "drop-in" solution for existing popular firearm platforms, like the AR15, AK47 variants, or the Ruger 10/22TM. To adapt this invention to an AR-pattern firearm, for example, would require not only a modified fire control mechanism, but also a modified bolt carrier.

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Page 5

Background (cont.):

On May 7,2020, the "Assignment of Assignors Interest" on Patent 10,514,223 is transferred from to RARE BREED TRIGGERS, LLC (see attachment J). Both named inventors, Thomas Allen Graves (FLEX-FIRE TECHNOLOGY), and Jeffery Cooper Rounds), and two of the three named business entities, FLEX-FIRE TECHNOLOGY, and the previously listed patents, share a common geographical nexus to the Buda, Texas area.

In early 2021, ATF Agents contacted the ATF-FATD to inquire if the RARE BREED FRT-15 trigger assembly currently being sold had been examined and classified by the Division. They were informed that this specific trigger assembly has not been submitted or examined, however, previous devices incorporating similar operating principles had been classified as a combination of parts designed and intended to convert a weapon into a machinegun, and therefore a "machinegun" under the NFA. As previously noted, one such determination letter was issued on August 28, 2018, to [Richard Vasquez Firearms, LLC (see attachment E).

On June 4, 2021, ATF-FATD received a RARE BREED FRT-15 trigger assembly for evaluation under Investigation number 163080-21-0006/2021/595-DAS. A report was signed on July 15, 2021, with a determination that the RARE BREED FRT-15 trigger assembly is a combination of parts, designed and intended for use in converting a weapon into a machinegun; therefore, it is a "machinegun" as defined. This report provided background information to include (see attachment K):

Federal regulation, 27 CFR § 479.11, states that the term "automatically" as it modifies "shoots, is designed to shoot, or can be readily restored to shoot," means functioning as the result of a self-acting or self-regulating mechanism that allows the firing of multiple rounds through a single function of the trigger. Indeed, Federal courts have long held that automatically means that the weapon "fires repeatedly with a single pull of the trigger." *Staples v. United States*, 511 U.S. 600, 602 n. 1 (1994). "That is, once its trigger is depressed, the weapon will automatically continue to fire until its trigger is released or the ammunition is exhausted." Id.

Further, Federal regulation 27 CFR § 479.11, states that "single function of the trigger" means a single pull of the trigger and analogous motions. Courts have specifically affirmed ATF's interpretation that a single act of the shooter to initiate the firing sequence is a single function of the trigger. *Atkins v. United States*, 312 F. App'x 197, 200 (11th Cir. 2009); *Freedom Ordnance Mfg., Inc. v. Brandon*, 2018 U.S. Dist. LEXIS 243000 (S.D. Ind. Mar. 27, 2018). *United States v. Fleischli*, 305 F.3d 643, 655 (7th Cir. 2002)(in which electronic switch was the trigger when it served to initiate the firing sequence and the minigum continued to fire until the switch was turned off or the ammunition was exhausted). In *Freedom Ordnance* case, the United States District Court of Indiana confirmed that ATF was not arbitrary and capricious in the classification of an "electronic reset assist device" as a machinegum even though the firearm's trigger reset before each shot by pushing the shooter's finger forward. *Freedom Ordnance Mfg., Inc,* No. 3:16-cv-00243-RLY-MPB. In these cases, a firearm is a machinegum when an internal mechanism or operation automatically forces the individual's finger forward instead of requiring that the shooter release the trigger.

Background (cont.):

ATF Tampa Field Division issued a letter dated July 26, 2021, to Rare Breed Trigger, LLC. This letter informs Rare Breed Triggers, LLC that the FRT-15 has been classified as a "machinegun" as defined by the NFA and GCA and to cease and desist all manufacture and transfer of the Rare Breed Trigger FRT-15 (see attachment L).

On August 2, 2021, Rare Breed Triggers, LLC/Kevin C. Maxwell filed a complaint for declaratory and injunctive relief (Case 6:21-cv-01245)(see attachment M). Kevin C. Maxwell's Affidavit in this proceeding contains forty-six-line items to include the following regarding steps taken by the plaintiff, as to the device's compliance with federal law, prior to/after manufacturing/marketing the device:

- 9. Before the FRT-15 ever went to manufacturing, I submitted the prototype to legal counsel, Kevin P. McCann, Esq., seeking a legal opinion letter about the FRT-15's compliance with federal law specifically whether it fit the definition of a "machinegun."
- 16. On or about August 6, 2020, received an opinion from IFSA's Director, Daniel O'Kelly. Mr. O'Kelly is also a former ATF Senior Special Agent and the Chief Firearms Technology Instructor at the ATF National Academy, where he wrote and co-wrote the entire firearms technology course of study used to train Agents and Investigators on among other things, what is and is not a machinegun.

ATF-FATD notes that no prototype Rare Breed FRT-15 sample was ever submitted to ATF-FATD for evaluation. FATD's FTISB and FTCB Branches are the only branches within ATF authorized with the evaluation and classification of such devices.

- 18. After the FRT-15 went into manufacturing, I sought two additional examinations and opinions from two additional national firearms experts to ensure that any development changed to aid in the manufacturing of the FRT-15 had not changed its function in any way that would cause it to fall under the definition of a "machinegun.
- 19. On or about February 24, 2021, the Plaintiffs received an opinion letter from Rick Vasquez, another former ATF Special Agent and Former Acting Chief of the Firearms Technology Branch. Where he served as the ATF's expert on all Gun Control and National Firearms Act Identification and classifications. Firearms Technology Branch is arm of the ATF which alluded to have conducted the examination upon which the Cease and Desist letter is based.
- 20. Mr. Vasquez again analyzed the functions of the FRT-15 against the definition of a "machinegun" under federal law and concluded that the manufactured version of the FRT-15 does not meet the definition of a "machinegun" ("Vasquez Opinion Letter). A true and correct copy of the Vasquez Opinion Letter is attached to my Complaint and to my motions for injunctive relief.

Mr. Vasquez noted that the ATF Firearms Technology Branch (the predecessor of the ATF Firearms and Ammunition Technology Division) is the branch of ATF charged with rendering firearms classification decisions. FATD notes that the FRT-15 was not submitted to ATF for evaluation at this time.

Page 6

Background (cont.):

ATF-FATD notes that this Opinion Letter dated February 24, 2021, under Exhibit C of the plaintiff's filing contains the following under III <u>CONCLUSION</u>:

The FRT trigger is a self-contained trigger assembly with a redesigned hammer, trigger, and locking bar (disconnector). The FRT trigger system does not have an automatic sear nor does it operate by electronics, springs, or hydraulics, therefore, is not a "machinegun". Additionally, there is no verifiable history of ATF opinions to support this trigger being classified as a machinegun, both in general and specifically pertaining to the underlying design.

In consideration of ATF's 2018 AR1 trigger system "machinegun" determination, and an earlier 2004 "machinegun" determination on a similar type of trigger device, the claim that there is no verifiable history of ATF opinions to support this trigger being classified as a machinegun, both in general and specifically pertaining to the underlying design, is not correct. Also, the RARE BREED FRT-15 trigger was never submitted to ATF for evaluation. Further, consider the following points noted in the above background section of this report:

- In 2017, FTISB received the AR1 trigger system from with accompanying paperwork submitted by Rick Vasquez Firearms LLC. The applicable patent was stated to be Flex-Fire Technology U.S. 9,568,264 (see attachment D). The submitted AR1 trigger system was classified as a "machinegun" in 2018.
- received U.S. Patent 10,514,223 B1 in December 2019 (see attachment I), which references the above Flex-Fire Technology patent and two additional Flex-Fire patents as a device for increasing the rate of semiautomatic fire, with the distinction that this latest patent provides a "drop-in" solution for existing popular firearm platforms.
- In May 2020, "Assignment of Assignors Interest" on U.S. Patent 10,514,223 B1 is transferred from to Rare Breed Triggers LLC. ATF-FATD does not have any information pertaining to whether informed Rare Breed Triggers LLC as to the "machinegum" determination received in 2018 on the previously submitted AR1 trigger system; however, it seems unlikely this information would not convey along with the Patent Assignment.
- 21. On or about May 4, 2021, we received an opinion letter from Firearms and Interstate Nexus Consulting, LLC ("FTINC") in Grand Rapids Michigan, Via the company's owner, Brian Luettke.
- 22. and in his last position with ATF, was Chief of Advanced Firearms and Interstate Nexus Branch, a sub-branch of the Firearms and Ammunition Technology Branch.

ATF-FATD-FTISB notes that even after it started manufacturing, and to the date of this report, Rare Breed Triggers LLC did not submit the FRT-15 to FATD's FTISB Branch for evaluation. FTISB is the only Branch within FATD authorized to provide classifications on such devices submitted by individuals and the firearms industry. Rare Breed Triggers, LLC cites these private opinions seemingly to argue that it did not violate the law by making and transferring the FRT-15. Indeed, the effort in obtaining numerous private opinions while

Background (cont.):

failing to submit a sample to ATF-FATD suggests that Rare Breed, LLC intentionally avoided formal classification by the regulatory agency delegated authority to make such classifications.

Findings:

Exhibit 2 is a Rare Breed Triggers, model FRT-15, AR15-type drop-in fire-control group, manufactured by Rare Breed Triggers located in Orlando, Florida. The Exhibit is not marked with a serial number. U.S. Patent No: 10,514,223 B1 (attachment I) includes illustrations which closely parallel the Exhibit 2 Rare Breed FRT-15 device in its "drop-in" concept, though having differing geometry in its component parts.

Exhibit 2 is comprised of the following individual component parts:

One (1) aluminum housing

One (1) hammer

One (1) hammer spring

Two (2) tubular pins

One (1) trigger

One (1) trigger spring

One (1) locking bar

One (1) solid pin

One (1) locking bar spring

Two (2) pins with interior threads at both ends

Four (4) hex head screws with exterior threads

Exhibit 2 bears the following markings on the right side of its aluminum housing:

RARE BREED -TRIGGERS-US PAT. 10514223

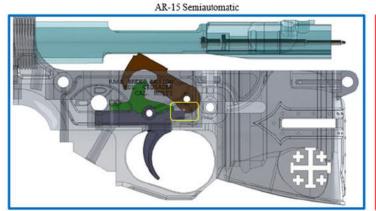
The Rare Breed FRT-15 device is designed to allow "drop-in" installation into AR15-type firearms. The device is designed to function in conjunction with an H3 weight buffer and M16-type machinegun bolt carrier rather than a standard semiautomatic AR15-type bolt carrier. The M16-type bolt carrier incorporates a contact surface that is unnecessary on AR15-type semiautomatic firearms because this surface is designed to "trip" the auto sear in standard M16-type machineguns. This surface is utilized to similarly "trip" the "locking bar" in FRT-15 equipped AR15-type firearms during the operating cycle. Indeed, it is telling that in attachment A, U.S. Patent .: 10,514,223 B1, includes the following in 4, 50 and 55 (emphasis in red added):

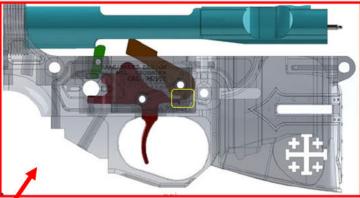
The bolt carrier assembly **52** used with the embodiments of this invention can be an ordinary (milspec) M16-pattern bolt carrier assembly, whether operated by direct impingement or a gas piston system, that has a bottom cut position to engage an auto sear in a fully automatic configuration. The bottom cut creates an engagement surface **54** in the tail portion **56** of the bolt carrier body **58**. This is

distinct from a modified AR15 bolt carrier that is further cut-away so that engagement with an auto sear is impossible.

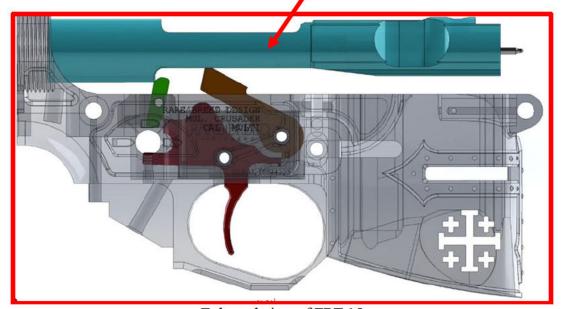
Basic operation of the FRT-15 device installed within an AR15-type firearm having a M16-type machinegun bolt carrier is as follows, (also see Attachment A, pages 1 through 11, utilizing images pulled from a video animation available on Rare Breed Triggers web site, showing comparative views of AR15-type semiautomatic and FRT-15 mechanisms, with added ATF text and highlights):

• Image of semiautomatic AR15-type (left) and FRT-15 equipped firearm (right) with both firearms ready to fire with the hammer in a "cocked" position being held by the sear surface on the front of the trigger (yellow box).



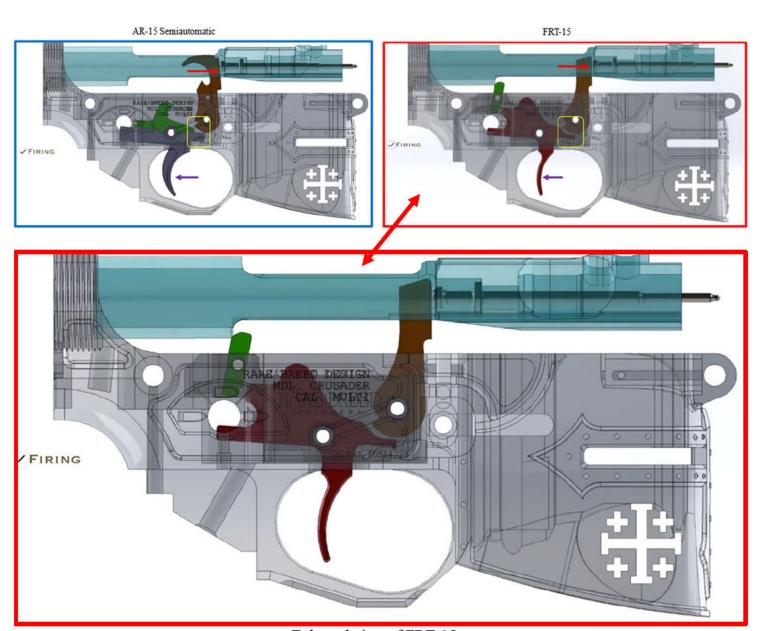


FRT-15



Enlarged view of FRT-15

• Rearward pressure is applied to "pull" the trigger thus releasing the hammer, which falls impacting the firing pin and discharging the primer, which in turn ignites the propellant powder to accelerate the projectile (bullet) down the rifled bore (Also see Attachment A, page 2 of 23).



Enlarged view of FRT-15

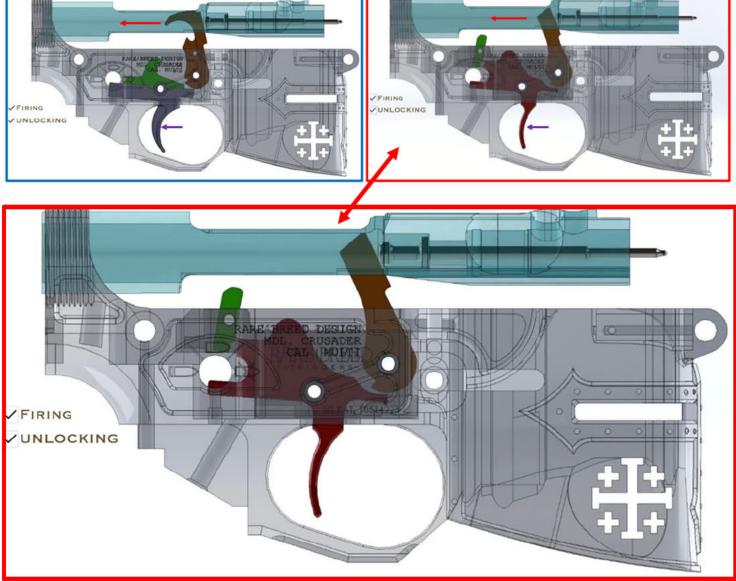
Page 10

FRT-15

Findings (Cont.):

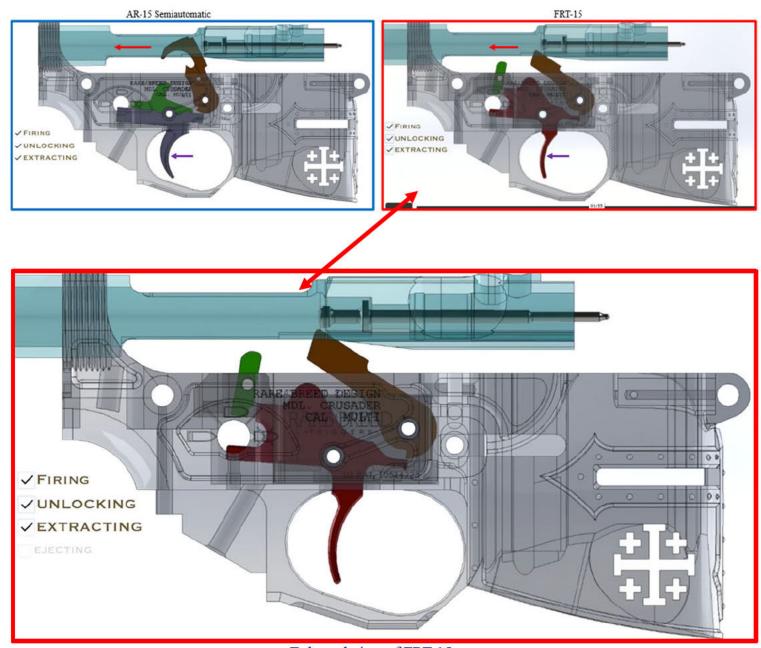
AR-15 Semiautomatic

• As the projectile moves past the gas port, a quantity of the gas is bled off through the gas port, gas tube and bolt carrier key into a cylindrical section in the bolt carrier where it expands and drives the bolt carrier rearward. Note that this happens rapidly while rearward "pull" pressure from the trigger pull is generally maintained on the trigger. During the first rearward travel of the carrier assembly, the bolt is rotated by the cam pin acted on by the bolt carrier cam slot. This rotation disengages the bolt lugs from the barrel extension lugs so the bolt is unlocked. The bolt carrier group then continues rearward with the unlocked bolt assembly which starts to act upon the hammer (Also see Attachment A, page 3 of 23).



Enlarged view of FRT-15

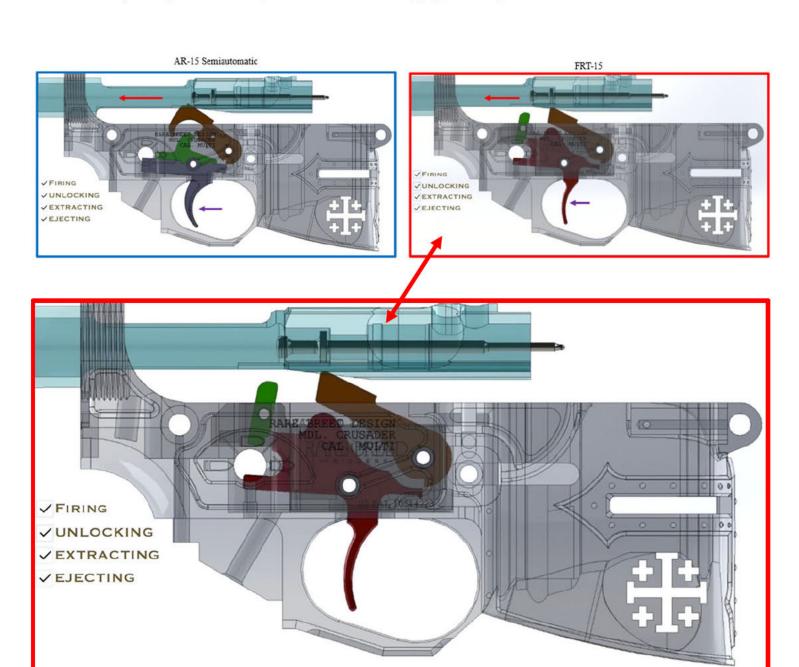
• The fired cartridge case is withdrawn from the chamber as the bolt carrier group continues its rearward travel, also continuing to further depress the hammer (Also see Attachment A, page 4 of 23).



Enlarged view of FRT-15

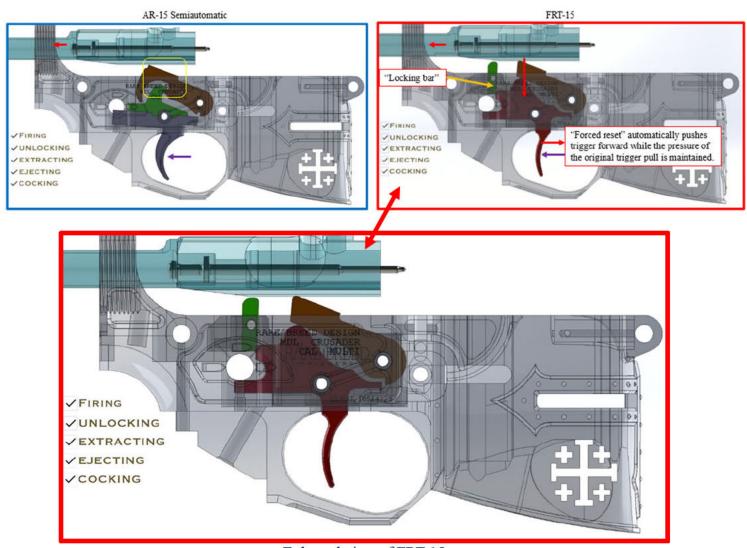
Page 12

As the spent case is fully drawn out of the chamber, the spring-loaded ejector, acting against the left side
of the case head, pushes the spent case out of the ejection port. The bolt carrier group continues rearward
still depressing the hammer (Also see Attachment A, page 5 of 23).



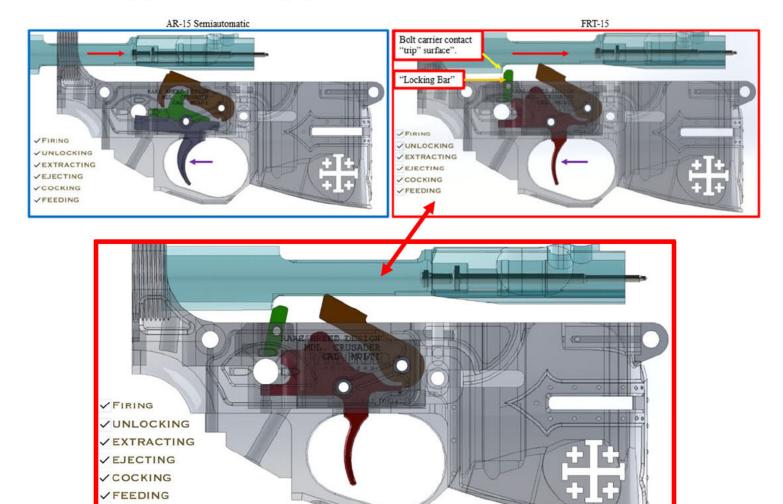
Enlarged view of FRT-15

• At this point, the operation of a firearm with an FRT-15 (right and bottom images) differs from a semiautomatic AR15-type firearm (left image). In a semiautomatic AR-15-type firearm, the hammer is pushed down by the bolt carrier and is retained by the disconnector. Upon the shooters release of the trigger, the disconnector releases the hammer, and the hammer comes to rest on the trigger sear surface, ready to expel a second projectile with a subsequent pull of the trigger. Conversely, in the FRT-15 equipped firearm, as the bolt carrier group continues rearward, the hammer is pushed down by the bolt carrier group, but it also pushes down on the trigger which forces it forward. The trigger is pushed slightly forward as an automatic function of the FRT-15 design without any further action by the shooter. This causes the hammer to engage the triggers sear surface., Differing from a standard semiautomatic firearm, the unique FRT-15 trigger design also engages the "locking bar" to momentarily keep the trigger in place so that the shooter may not override the automatic functioning of the weapon (Also see Attachment A, page 6 of 23).



Enlarged view of FRT-15

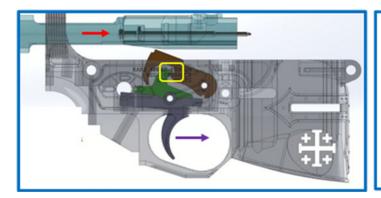
• As the bolt carrier moves forward into battery using the force of the action spring, the contact surface on the required M16-type machinegun bolt carrier (also see attachment A page 12 of 23), which is designed to interact with the automatic sear on M16-type firearms), strikes the FRT-15 (right and bottom images) "locking bar", releasing the trigger. The necessity of an M16-type bolt carrier is clear at this point-it acts on the "locking bar" in the same way it acts on the machinegun auto-sear. Specifically, when the bolt moves back into firing position, it contacts the upper protruding surface area on the FRT-15 "locking bar", or the M16-type auto sear, thus allowing subsequent rounds to be automatically fired while a single pull (constant rearward pressure) is maintained on the trigger. Note that the disconnector on the AR15-type semiautomatic (left image) retains the hammer until the shooter manually releases the trigger (Also see next page and Attachment A, page 7 of 23).

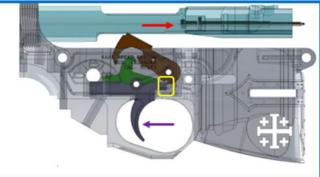


Enlarged view FRT-15

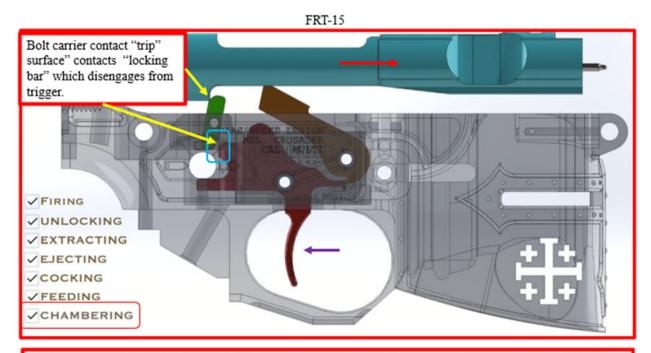
Page 15

• After firing a shot with a <u>semiautomatic</u> AR15-type firearm, the shooter is required to manually release the trigger which releases the hammer from the disconnector (left image in yellow box), and then manually pull the trigger a second time to fire a subsequent shot (right image).





• If the shooter maintains constant rearward pressure from the original single function (pull) of the trigger, the self-acting or self-regulating mechanism of the FRT-15 device allows subsequent projectiles to be fired during the continuing cycle of operation (Also see Attachment A, 10 of 23).



With pressure still maintained from the original continuous function (pull) of the trigger, the trigger, which was momentarily kept in the forward position into which it was automatically forced, is now free to fire subsequent shots with maintained pressure from the original function (pull) of the trigger, due to the self-acting or self-regulating mechanism. The "locking bar" performs a timed delay function which is automatically disengaged during the operating cycle of the firearm, rather than a positive disconnect, as does the standard AR-15 type disconnector pictured in images above.

• From the moment of the application of trigger pressure, and as long as rearward pressure is applied to the trigger through a single constant pull, a firearm with an FRT-15 continues to fire until the firing finger is removed from the trigger, the weapon malfunctions, or the ammunition is exhausted; this firing takes place regardless of the purported "forced reset" pushing the trigger forward.

U.S. Patent No.: 10,514,223 B1 includes the following explanation revealing that the "locking bar" serves the same function as an auto sear in a typical machinegun-to capture a fire control component until the additional surface on an M16-type bolt carrier contacts it and releases the fire control component to automatically fire a subsequent shot.

(57) Abstract

The locking bar is pivotally mounted in a frame and spring biased toward a first position in which it mechanically blocks the trigger member against the spring bias to a second position when contacted by the bolt carrier reaching a substantially in-battery position, allowing the trigger member to be moved by an external force to a released position.

...

(65)

An upper end of the locking bar 62 extends above the upper edge of housing 12 and lower receiver 50 to be engaged by the engagement surface 54 of the bolt carrier body 58 when the bolt carrier assembly is at or near its in-battery position.

This "external force" allowing the trigger member to be moved to a released position, is merely the continuous pressure applied to the trigger during the single continuous function (pull) of the trigger. With both an FRT-15 equipped AR15-type firearm, and an M16-type machinegun (with the selector set in its "Full Auto" position), the shooter maintains a constant pull of the trigger to fire subsequent shots with a single function (pull) of the trigger, through both the M16-type machinegun and FRT-15 equipped AR15-types self-acting or self-regulating mechanisms during the operating cycle of the firearms.

To function test the Exhibit 2 FRT-15 device, I installed the Exhibit into an AR15-type firearm obtained from the ATF National Firearms Collection (NFC). The ATF NFC firearm was comprised of a Bushmaster AR15-type receiver, M16-type upper barreled assembly (having the required M16-type machinegun bolt carrier), and an H3 buffer (See attachment A, slides 19, 20, 21).

The Exhibit 2 device (installed within the ATF exemplar firearm) was test fired on September 10, 2021, at the ATF test range, Martinsburg, West Virginia, using commercially available, Federal brand, 5.56x45mm caliber ammunition and a magazine from the NFC.

I first inserted one round of ammunition into a magazine, inserted the magazine into the weapon and chambered the cartridge, placed the selector into the "FIRE" position, and pulled the trigger. The NFC exemplar weapon, having the Exhibit 2 device installed, discharged the chambered cartridge, and expelled a projectile by the

Page 18

Findings (Cont.):

action of an explosive. I repeated this method of test-fire one additional time, obtaining the same result. I repeated this same test with the magazine being removed after the cartridge was chambered, and noted that the hammer, rather than remaining in a cocked position, as would normally be the case with a standard AR15-type semiautomatic firearm, after firing one round with a single function (pull) of the trigger, had been released a second time, indicating that the Exhibit 2 equipped firearm had initiated a second firing cycle with the original single function (pull) of the trigger. I repeated this method of test-fire one additional time, obtaining the same result.

I next inserted a two-round ammunition load into a magazine, inserted the magazine into the weapon and chambered the cartridge, placed the selector into the "FIRE" position, and pulled the trigger holding it to the rear. The NFC exemplar weapon, having the Exhibit 2 device installed, fired two (2) rounds automatically by a single function (pull) of the trigger. I repeated this method of test-fire one additional time, obtaining the same result.

I continued this testing protocol by inserting a five-round ammunition load into a magazine, inserting the magazine into the weapon and chambered the cartridge, placing the selector into the "FIRE" position, and pulling the trigger and holding it to the rear. The NFC exemplar weapon, having the Exhibit 2 device installed, fired five (5) rounds automatically by a single function (pull) of the trigger. I repeated this method of test-fire one additional time, obtaining the same result.

Next, the NFC exemplar weapon, having the Exhibit 2 device installed was tested utilizing a common plastic zip-tie to secure the trigger in a "pulled" position, was tested as follows:

- A common plastic 9-3/4-inch plastic zip-tie was installed around rear of the grip and the front of the Exhibit 2 trigger.
- The zip-tie was gradually tightened until the trigger was retracted just enough to allow the hammer to fall.
- With the trigger retained in this position, the bolt assembly was retracted and retained in an open position, with the aid of the bolt catch.
- A five-round ammunition load was placed into the magazine and inserted into the Exhibit 2 equipped ATF exemplar firearm.
- Without touching the trigger (which was being retained in a fixed position by the plastic zip-tie), the bolt catch was depressed allowing the firearm's bolt to travel forward and chamber a cartridge. Upon chambering the cartridge, the weapon fired the entire five-round ammunition load automatically without the trigger being repeatedly pulled and released.
- This same test was repeated a second time with a five-round ammunition load and once with a fifteen-round load. In all instances, the submitted sample discharged its entire ammunition load upon initiating

Page 19

Findings (Cont.):

the firing sequence by depressing the bolt release, thus allowing the bolt assembly to move forward and both chamber and fire cartridges repeatedly.

Finally, I repeated the above test protocol with the exception that the common 9-3/4-inch plastic zip-tie was replaced with a ULINE Brand locking galvanized steel aircraft cable seal.

- Without touching the trigger (which was being retained in a fixed position by the ULINE Brand locking cable seal), the bolt catch was depressed allowing the firearm's bolt to travel forward and chamber a cartridge. Upon chambering the cartridge, the weapon fired the entire five-round ammunition load automatically without the trigger being repeatedly pulled and released.
- This same test was repeated a second time with a five-round ammunition load and once with a fifteen-round load. In all instances, the submitted sample discharged its entire ammunition load upon initiating the firing sequence by depressing the bolt release, thus allowing the bolt assembly to move forward and both chamber and fire cartridges repeatedly.

The FRT-15 "drop-in" device is uniquely designed to interact with the required M16-type machinegun bolt carrier during the cycle of operation in the same way that the M16-type machinegun bolt interacts with the machinegun auto sear. This allows the weapon to function as a self-acting, or self-regulating mechanism, with one continuous pull of the trigger, and allows the weapon to shoot automatically, more than one shot, without manual reloading, by a single function (pull) of the trigger, until its trigger is released, or the ammunition is exhausted.

While on standard semiautomatic AR15-type firearms, the cycle of operation is interrupted between shots by a disconnector which requires that the trigger be both manually released and manually pulled to fire a subsequent shot, no such action is required to fire subsequent shots on the FRT-15 equipped AR15-type firearm. Indeed, the FRT-15 design requires only that the shooter maintain the initial trigger pull, while the self-acting or self-regulating FRT-15 mechanism forces the trigger forward during the rearward movement of the required M16-type machinegun bolt carrier, and then automatically releases the trigger and hammer, as the "locking bar" interacts with the "trip surface" on the M16-type machinegun bolt carrier, as the firearm goes into battery. All of these actions occur if the shooter maintains a single, constant pull of the trigger.

It is worth reiterating that the legislative history for the NFA indicates that the drafters equated a "single function of the trigger" with "single pull of the trigger." National Firearms Act: Hearings Before the Comm. on Ways and Means, House of Representatives, Second Session on H.R. 9066, 73rd Cong., at 40 (1934). Therefore, consistent with the language of the statute and Congressional intent, ATF has long held that a single function of the trigger is a "single pull" or alternatively, a single release of a trigger.

As received, Exhibit 2 is a combination of parts, designed and intended for use in converting a weapon (AR15-type) into a machinegun; therefore, it is a "machinegun" as defined in the GCA and NFA.

Special Agent Michael T. Nuttall

163080-21-0006 2021-676-RKD Page 20

Conclusions:

Exhibit 2 is a combination of parts, designed and intended for use in converting a weapon into a machinegun; therefore, it is a "machinegun" as defined in 26 U.S.C. § 5845(b).

Exhibit 2 is a "machinegun" as defined in 18 U.S.C. § 921(a)(23).

Exhibit 2, being a machinegun, is also a "firearm" as defined in 26 U.S.C. § 5845(a)(6).

Exhibit 2 is not marked in accordance with 26 U.S.C. § 5842(a).

Examined By:

RONALD DAVIS DIGITALLY SIGNED BY RONALD DAVIS

Date: 2021.10.19 16:17:46 -04'00'

Ronald K. Davis

Firearms Enforcement Officer

Approved By:

GREGORY

Digitally signed by GREGORY

STIMMEL

STIMMEL Date: 2021,10.20 15:28:03

Gregory Stimmel, Chief

Firearms Technology Criminal Branch

Attachments: A-Report Pictures and Images

B- Rick Vasquez Firearms LLC/ AR1 Trigger Submission (307385)

C- RV Firearms LLC e-mail on for general mechanism of AR1 system.

D- U.S. Patent No.: 9,568,264, B2 (FLEX-FIRE TECHNOLOGY-Graves)

E- FATD Classification on AR1 System to (807385).

F- E-mail from a stating they are an 07/02 FFL and requesting a return date that will allow them to file required ATF Form 2 in required timeframe.

G- U.S. Patent No.: 9,816,772 B2 (FLEX-FIRE TECHNOLOGY-Graves).

H- U.S. Patent No.: 9,939,221 B2 (FLEX-FIRE G2 TECHNOLOGY-Graves).

I- U.S. Patent No.: 10,514,223 B1

J- U.S. Patent Assignment of Assignors Interest

RARE BREED LLC).

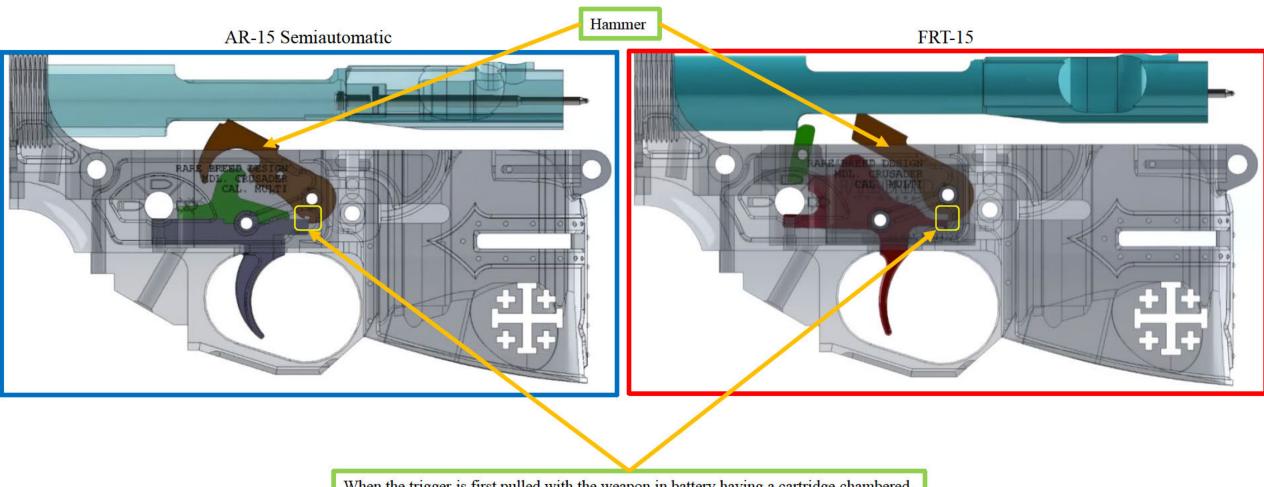
K- ATF-FATD-FTCB Report 2021-595-DAS.

L- ATF Cease and Desist Letter to RARE BREED LLC.

M-RARE BREED LLC Filing dated 08/02/21, Case 6:21-cv-01245.

Enclosed is a Firearms Technology Criminal Branch report provided in response to your request for assistance. Please be aware that these documents constitute "taxpayer return information" that is subject to the strict disclosure limitations provided in 26 U.S.C. § 6103. Exceptions to the non-disclosure provisions that permit the disclosure internally within ATF are set forth in 26 U.S.C. §§ 6103(h)(2)(C) and (o)(1). Any further disclosure of these reports is strictly limited and must be reviewed and approved by the Office of Chief Counsel prior to any information dissemination. Failure to adhere to the disclosure limitations provided in 26 U.S.C. § 6103 could result in civil and/or criminal liability.

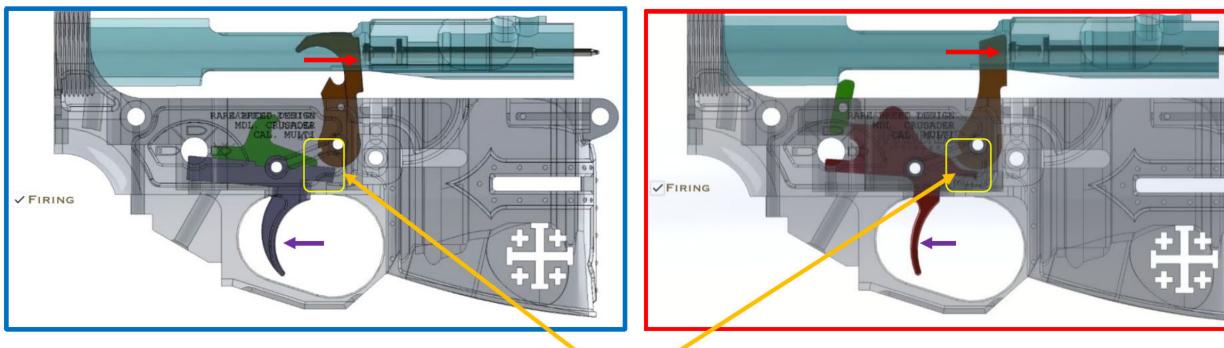
Still images pulled from FRT Full Video animation on Rare Breed Triggers web site. Note that image on the left within blue box depicts a standard AR-15 type semiautomatic trigger mechanism. Image on the right within red box depicts the FRT-15 trigger mechanism. ATF highlights added.



When the trigger is first pulled with the weapon in battery having a cartridge chambered, it causes the sear (located on the front of the trigger), to release the hammer.

Still images pulled from FRT Full Video animation on Rare Breed Triggers web site. Note that image on the left within blue box depicts a standard AR-15 type semiautomatic trigger mechanism. Image on the right within red box depicts the FRT-15 trigger mechanism. ATF highlights added.

AR-15 Semiautomatic FRT-15

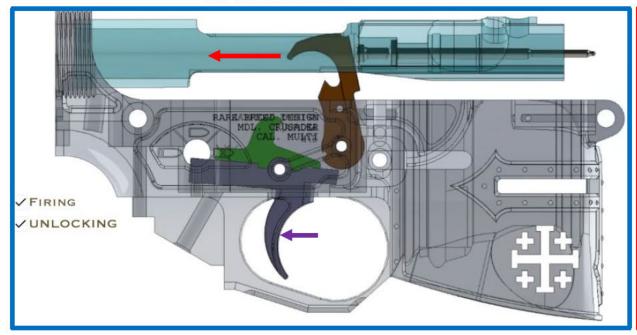


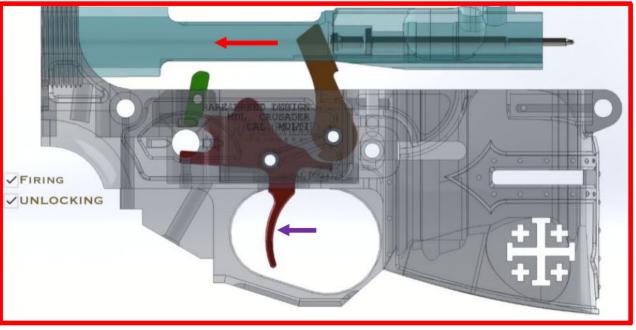
View of both the AR-15 semiautomatic firearm (left), and the FRT-15 equipped firearm (right) having the trigger pulled to the rear. The sear, now clear of the hammer, allows the hammer to fall, striking the firing pin and firing the chambered cartridge.

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Case 4:23-cv-00830-O Document 77-14 Filed 12/01/23 Page 65 of 117 PageID 3617 Still images pulled from FRT Full Video animation on Rare Breed Triggers web site. Note that image on the left within blue box depicts a standard AR-15 type semiautomatic trigger mechanism. Image on the right within red box depicts the FRT-15 trigger mechanism. ATF highlights added.

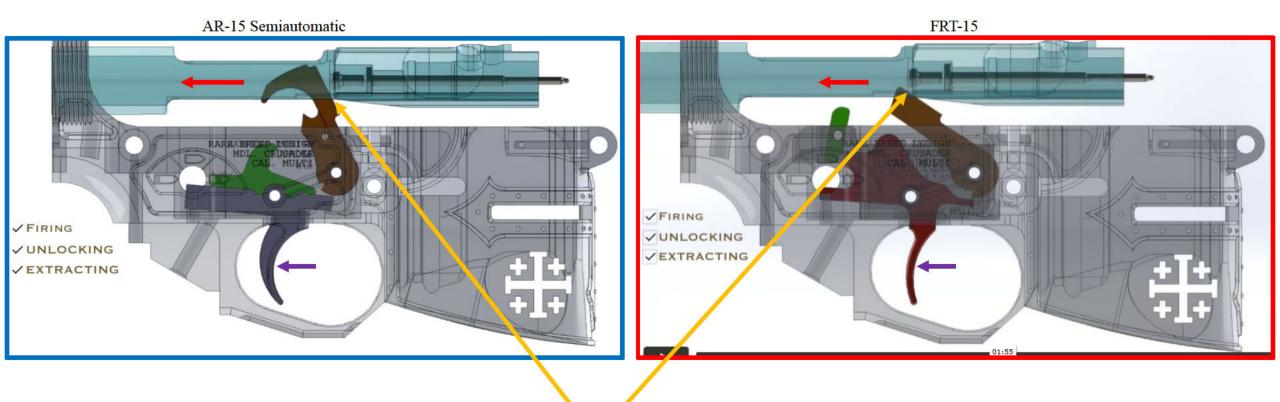
AR-15 Semiautomatic FRT-15





After the chambered cartridge is fired, the pressure of the gas generated by the burning propellant drives the projectile down the barrel and past the gas port, a small quantity of the gas is bled off through the gas port, gas tube and bolt carrier key into a cylindrical section in the bolt carrier where it expands and drives the bolt carrier rearward. Note that this happens rapidly while rearward "pull" pressure from the trigger pull is maintained on the trigger. During the first rearward travel of the carrier, the bolt is rotated by the cam pin acted on by the bolt carrier cam slot. This rotation disengages the bolt lugs from the barrel extension lugs so the bolt is unlocked. The bolt carrier group then continues rearward with the unlocked bolt assembly which starts to act upon the hammer.

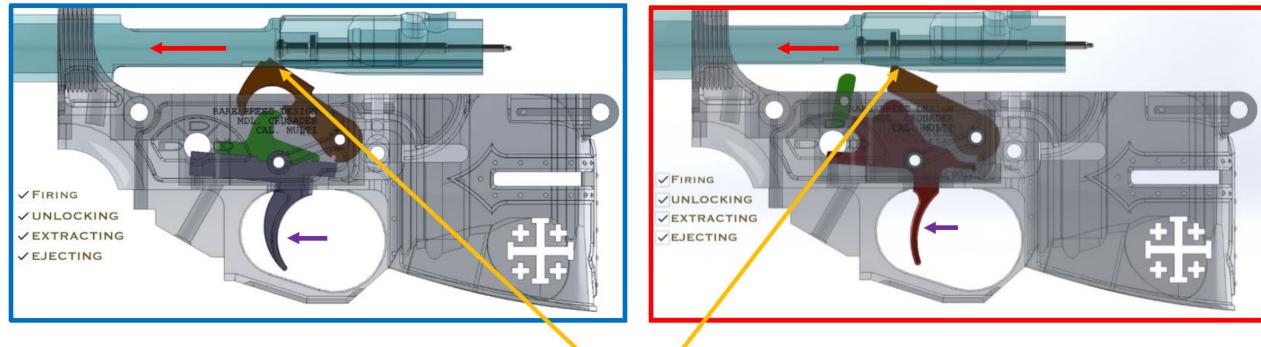
Case 4:23-cv-00830-O Document 77-14 Filed 12/01/23 Page 66 of 117 PageID 3618
Still images pulled from FRT Full Video animation on Rare Breed Triggers web site. Note that image on the left within blue box depicts a standard AR-15 type semiautomatic trigger mechanism. Image on the right within red box depicts the FRT-15 trigger mechanism. ATF highlights added.



The fired cartridge case is withdrawn from the chamber as the bolt carrier group continues its rearward travel, also continuing to further depresses the hammer.

Still images pulled from FRT Full Value 4nd mation 801-Rare Breed Triggles with 1101 Note that mage of the Period that blue box depicts a standard AR-15 type semiautomatic trigger mechanism. Image on the right within red box depicts the FRT-15 trigger mechanism. ATF highlights added.

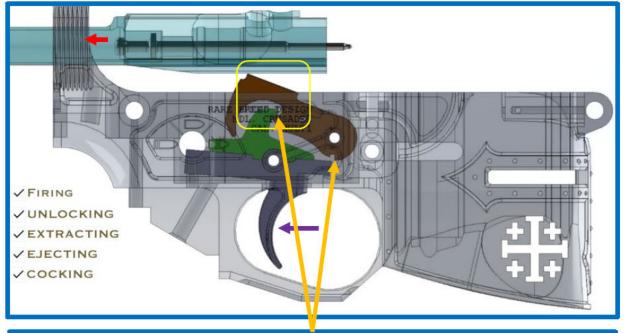
AR-15 Semiautomatic FRT-15



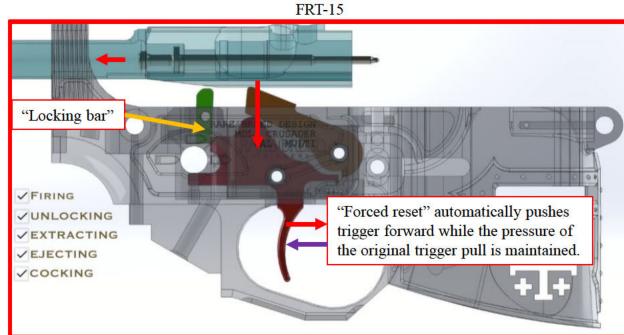
The spent case is drawn out of the chamber, the spring-loaded ejector, acting against the left side of the case head, pushes the spent case out of the ejection port. The bolt carrier group continues rearward still depressing the hammer.

Still images pulled from FRT Full Video animation on Rare Breed Triggers web site. Note that image on the left within blue box depicts a standard AR-15 type semiautomatic trigger mechanism. Image on the right within red box depicts the FRT-15 trigger mechanism. ATF highlights added.

AR-15 Semiautomatic

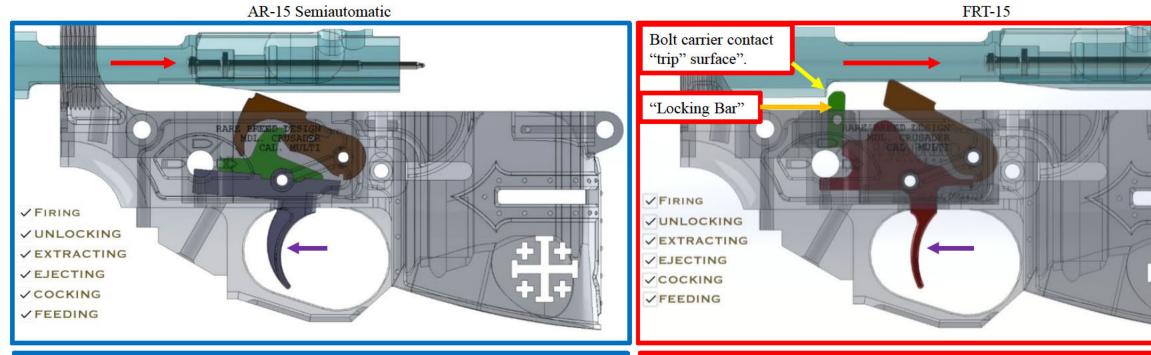


As the bolt carrier group continues rearward to recoil, it compresses the action spring and cocks the hammer. In a semiautomatic AR-15 type rifle, when the trigger is pulled, the firing action of the rifle is generally much faster than human reaction, so a "disconnector" is employed to retain the hammer in a cocked position for the remainder of the operating cycle, thus limiting the weapon to firing one shot, without manual reloading, by a single function (pull) of the trigger



In the FRT-15 equipped firearm, as the bolt carrier group continues rearward to recoil also compressing the action spring, hammer contact with the bolt carrier group pushes down on the trigger which forces it forward allowing the "locking bar" to <u>momentarily</u> keep the trigger in place so that the shooter may not override the automatic functioning of the weapon. Note that it is possible to retain the pressure from the single function (pull) of the trigger during this self-acting or self-regulating phase of the mechanism's operation, as it is with the semiautomatic AR-15 (left), though with different results as the firearm goes into battery on a subsequent cartridge later in the operating cycle.

Still images pulled from FRT Full Video animation on Rare Breed Triggers web site. Note that image on the left within blue box depicts a standard AR-15 type semiautomatic trigger mechanism. Image on the right within red box depicts the FRT-15 trigger mechanism. ATF highlights added.



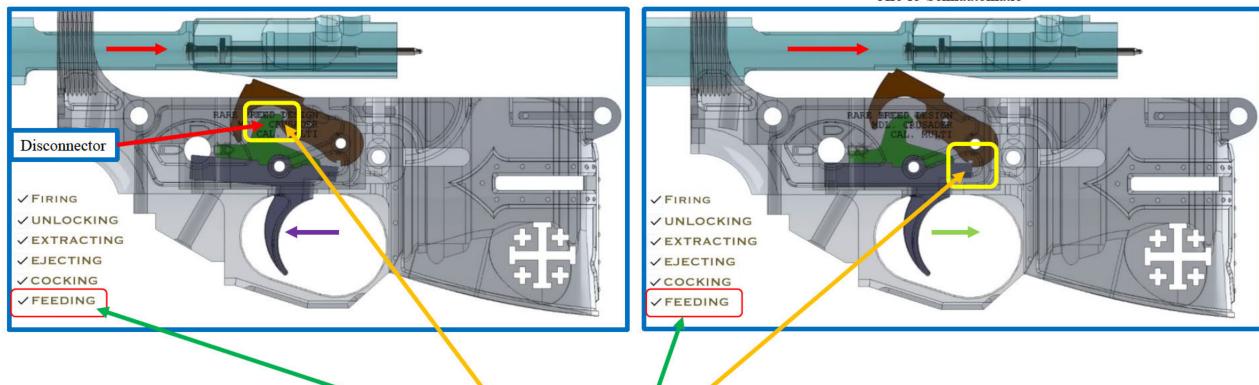
With pressure still maintained from the original continuous function (pull) of the trigger the hammer remains in a cocked position, still retained by the disconnector. The action spring drives the bolt carrier group forward. As the bolt carrier group moves forward, the lugs of the bolt pick up a cartridge from the magazine and feed it into the chamber. As the bolt locking lugs enter the barrel extension, the ejector is compressed against the left side of the cartridge head, and the extractor snaps into the extractor grove on the cartridge.

With pressure still maintained from the original continuous function (pull) of the trigger, the trigger is momentarily kept the forward position into which it was automatically placed by the self-acting or self-regulating mechanism (until the "locking bar" is struck by the "trip" surface on the M-16 "machinegun" type bolt carrier). This surface on the M-16 type bolt carrier is designed to interact with the automatic sear to effect automatic fire in "machinegun variants of this operating system and serves no purpose in standard semiautomatic AR-15 type firearms. The remainder of the feeding cycle remains similar. The action spring drives the bolt carrier group forward. As the bolt carrier group moves forward, the lugs of the bolt pick up a cartridge from the magazine and feed it into the chamber. As the bolt locking lugs enter the barrel extension, the ejector is compressed against the left side of the cartridge head, and the extractor snaps into the extractor grove on the cartridge.

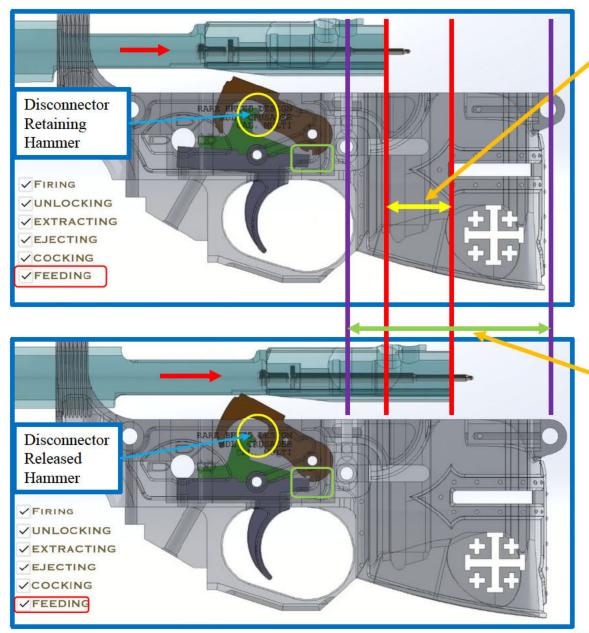
ATF 0859

Still images pulled from FRT Full Witted an invalor of Rapo Broed Triggers web 12/0-173 te than mages 1depictor trigger mechanism. ATF highlights added.

AR-15 Semiautomatic AR-15 Semiautomatic



The Rare Breed video animation depicts the standard semiautomatic AR-15 type firing mechanism as moving from having the disconnector retaining the hammer (left view) in a cocked position, to having the trigger sear retaining the hammer in a cocked position (right view) during the "feeding" cycle. The video states that the shooter may release the trigger at this point to allow the trigger to reset. It is significant to note that for this to occur during at this point of the operating cycle, the shooter would be required to physically release the trigger within a <u>fraction of a second</u> after firing, unlike with the FRT-15, which does this automatically through its self-acting or self-regulating mechanism. See



Approximate portion of bolt carrier assembly travel distance (forward stroke only or 1x between red vertical lines), within overall operating cycle, that standard AR-15 semiautomatic manual trigger release/reset is depicted within Rare Breed animation video.

To further explain slide 8, the Rare Breed video states that a standard "Mil-spec." AR-15 trigger can be released by the shooter to reset the trigger at this point. To duplicate what is happening at this point of the operating cycle, the shooter would be required to physically release the trigger within a fraction of a second after firing, unlike with the FRT-15, which does this automatically through its self-acting or self-regulating mechanism.

This is a small fraction within the overall duration of the operating cycle (incorporating rearward and forward movement) which in its entirety takes only a fraction of a second in and of itself. This appears to have been done to "sync" the position of the of a standard semiautomatic trigger with that of the FRT-15 trigger at the same point of the operating cycle in the Rare Breed FRT-15 video animation.

Approximate overall bolt carrier assembly travel distance (both rearward and forward strokes or 2x between purple lines) during entire operating cycle.

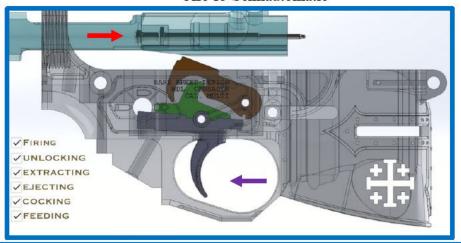
This phenomena is mentioned within

U.S. Patent No.: 10,514,223 B1.

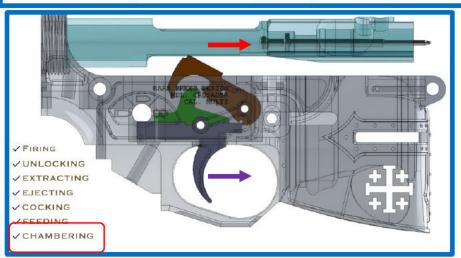
"A standard semiautomatic trigger mechanism includes a disconnector, which holds the hammer or striker in a cocked position until the trigger member is reset to engage the sear. This allows the firearm to be fired only a single time when the trigger is pulled and held, because the user is not typically able to release the trigger rapidly enough so that the sear engages before the bolt or bolt carrier returns to the in-battery position. The disconnector prevents the firearm from either firing multiple rounds on a single pull of the trigger, or allowing the hammer or striker to simply "follow" the bolt as it returns to battery without firing a second round, but leaving the hammer or striker uncocked."

Still images pulled from FRT Full Video animation on Rare Breed Triggers web site. Note that images on the left within blue boxes depict a standard AR-15 type semiautomatic trigger mechanism. Image on the right within red box depicts the FRT-15 trigger mechanism. ATF highlights added.

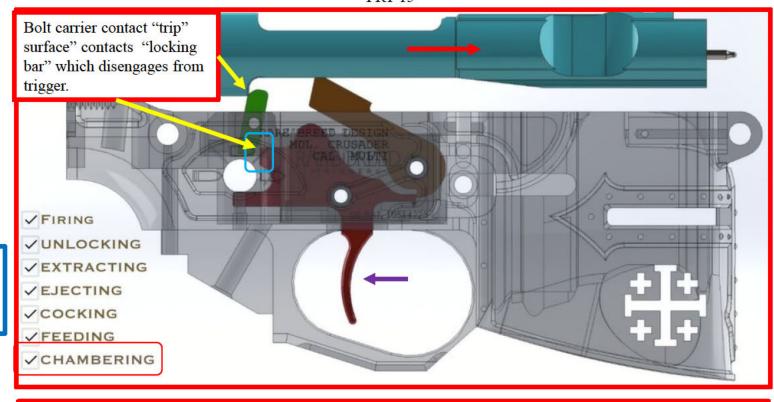
AR-15 Semiautomatic



ATF notes for the reasons outlined in slides 8/9 that during the "feeding" portion of the AR-15 semiautomatic operating cycle the trigger is most commonly still being retained to the rear with the hammer retained by the disconnector (top view) than as depicted below.



FRT-15



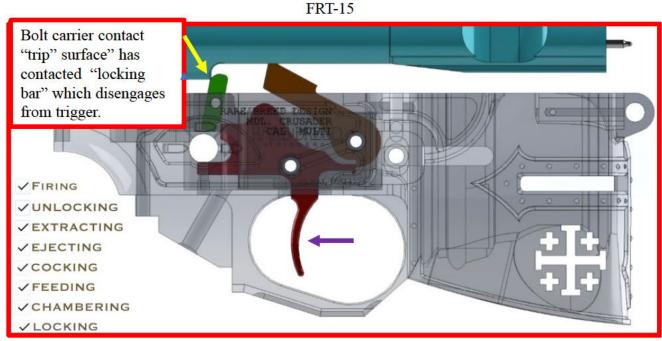
With pressure still maintained from the original continuous function (pull) of the trigger, the trigger, which was momentarily kept in the forward position into which it was automatically forced, is now free to fire subsequent shots with maintained pressure from the original function (pull) of the trigger, due to the self-acting or self-regulating mechanism. The "locking bar" performs a timed delay function which is automatically disengaged during the operating cycle of the firearm, rather than a positive disconnect, as does the standard AR-15 type disconnector pictured in images at left.

Still images pulled from FRT Full Video animation on Rare Breed Triggers web site. Note that image on the left within blue box depicts a standard AR-15 type semiautomatic trigger mechanism. Images on the right within red box depicts the FRT-15 trigger mechanism. ATF highlights added.

AR-15 Semiautomatic

AR-15 Semiautomatic

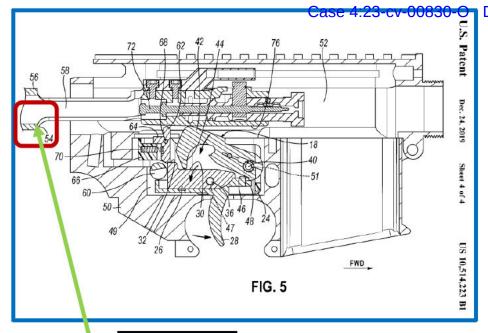
AR-15 Semiautomatic

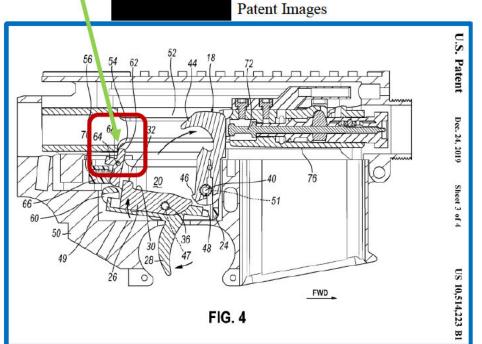


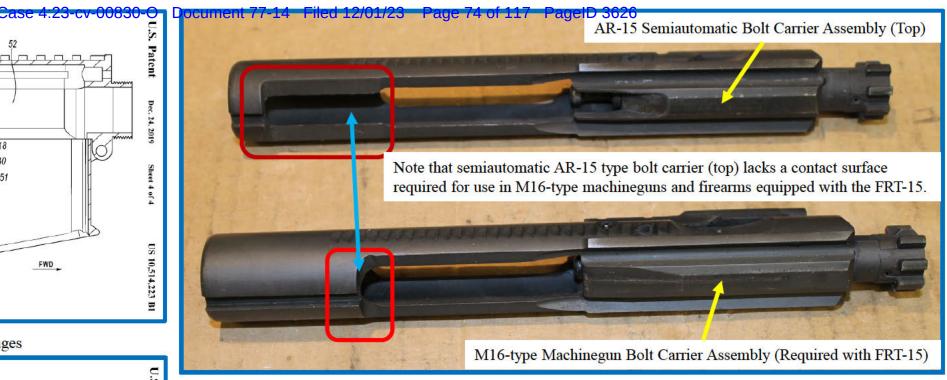
If pressure applied during the initial function (pull) of the trigger is maintained after firing the first shot (see patent excerpt on slide 9) during the operating cycle of the firearm, the standard AR-15 does not fire a subsequent shot with the original single function (pull) of the trigger. The shooter is required to both release and pull the trigger to fire another shot. Even if the shooter does manage to physically release the trigger during the operating cycle of the firearm to reset the trigger, an additional "pull" is required to fire another shot.

✓ FEEDING

If pressure applied during the initial function (pull) of the trigger is maintained after firing the first shot during the operating cycle of the FRT-15 equipped firearm, the self-acting or self-regulating mechanism will automatically press the trigger forward into the shooters finger thus "resetting" the trigger (with the original function (pull) of the trigger being maintained, subsequent shots are fired each time the momentary timed delay provided by the "locking bar" is removed as it is impacted or "tripped" by a surface present on the required M16-type machinegun bolt carrier designed to preform that function om M16-type machineguns during the firearms operating cycle.







The FRT-15 requires the use of an M16-type machinegun bolt carrier which incorporates a contact surface designed to "trip" the automatic sear in an M16-type machinegun to effect automatic fire, this same contact surface is required to "trip" the "locking bar" on the FRT-15 mechanism during the operating cycle of the firearm.

U.S. Patent .: 10,514,223 B1 includes the following in 4, 50 and 55:

"The bolt carrier assembly 52 used with the embodiments of this invention can be an ordinary (mil-spec) M16-pattern bolt carrier assembly, whether operated by direct impingement or a gas piston system, that has a bottom cut position to engage an auto sear in a fully automatic configuration. The bottom cut creates an engagement surface 54 in the tail portion 56 of the bolt carrier body 58. This is distinct from a modified AR15 bolt carrier that is further cut-away so that engagement with an auto sear is impossible."

Emphasis in red added by ATF.





INDEMNIFICATION: By purchasing or using the RBT FRT, you agree to accept responsibility for your use of the product and any consequence or fine imposed upon you by any government entity or third party and to indemnify and hold harmless RBT for any claims made resulting from your use of the FRT.

Indemnification portion of paperwork included with Exhibit 2.

15 to 23





163080-21-0006



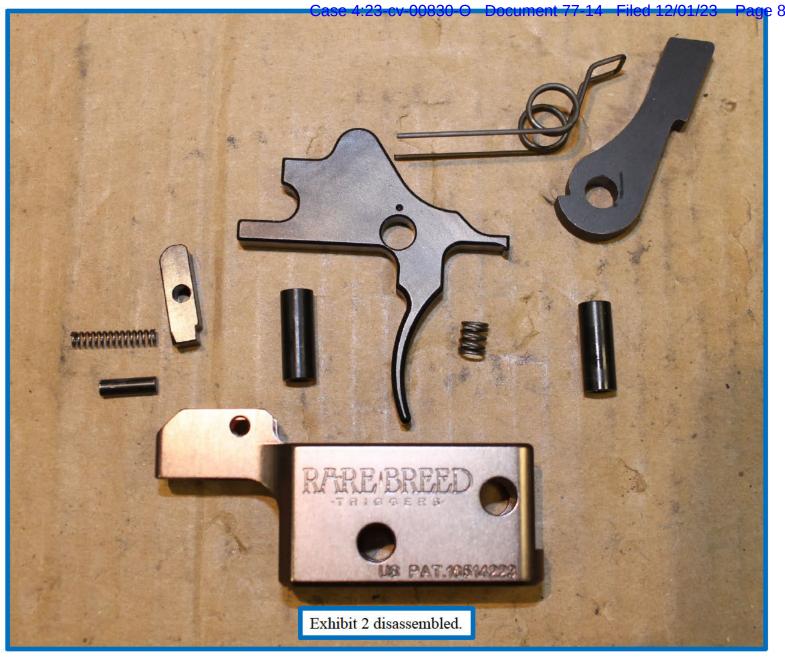


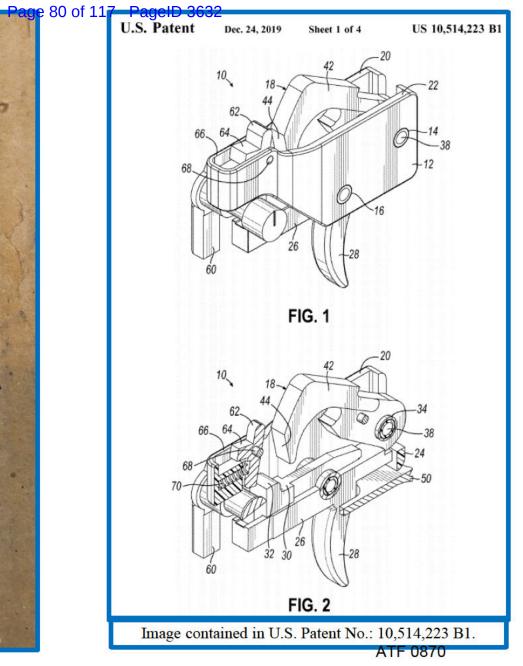




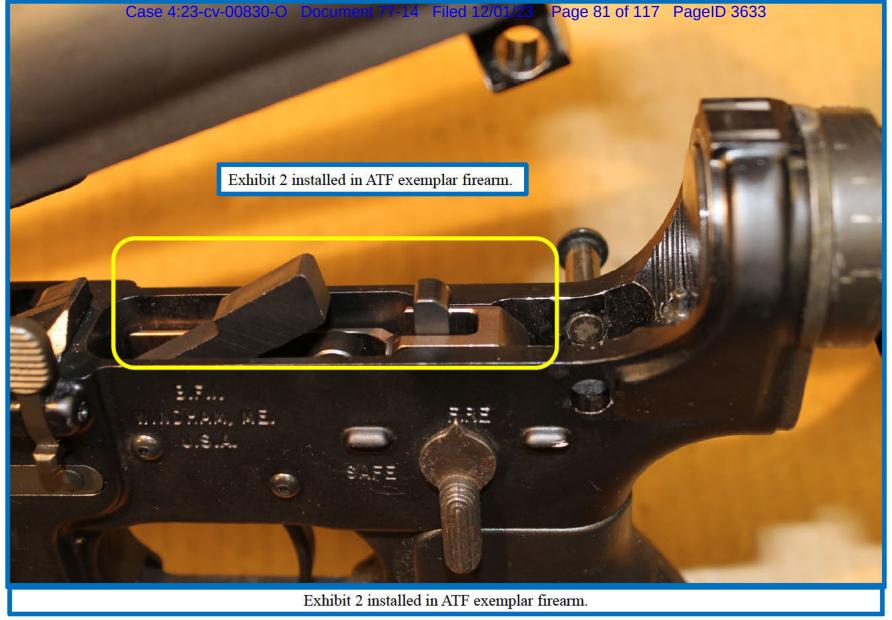


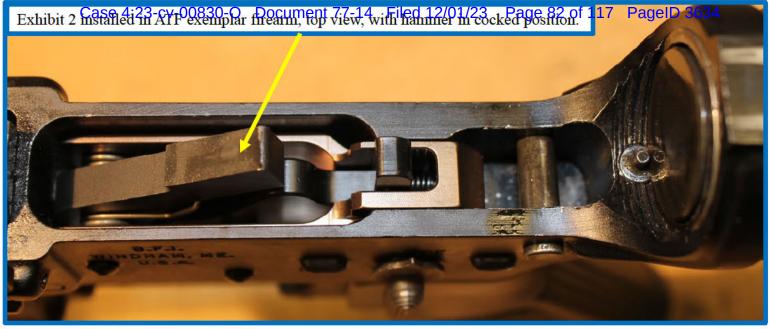
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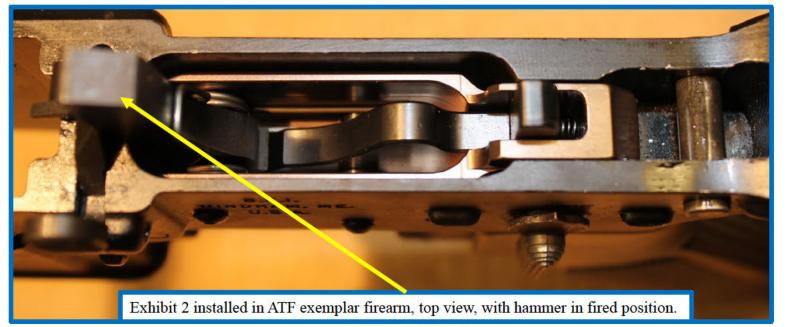




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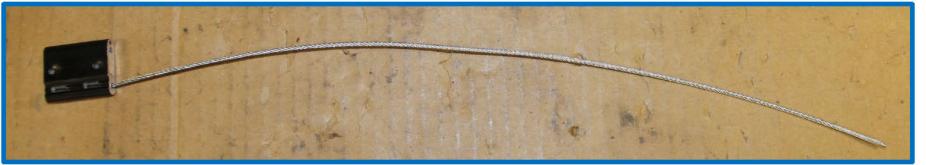
Without touching the trigger (which was being retained in a fixed position by the plastic zip-tie), the bolt catch was depressed allowing the firearm's bolt to travel forward and chamber a cartridge. Upon chambering the cartridge, the weapon fired the entire ammunition load (5 and 15 rounds) automatically.





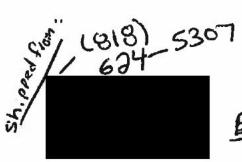


Without touching the trigger (which was being retained in a fixed position by the ULINE Brand locking galvanized steel aircraft cable seal), the bolt catch was depressed allowing the firearm's bolt to travel forward and chamber a cartridge. Upon chambering the cartridge, the weapon fired the entire ammunition load (5 and 15 rounds) automatically.

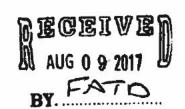


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Case 4:23-cv-00e80 of Depument 7412 Field 12/0123 Page 65 of 177 PageID 3638



Rick Vasquez Firearms LLC 235 Deer Creek Road Winchester VA 22602



EVAL. 307-385

The AR1 trigger system is being submitted for evaluation as a trigger-finger reset device. This trigger system works by mechanically pushing the trigger rapidly forward, resetting the finger and trigger to the forward position. This allows the user to make a decision in which they leave rearward pressure off the trigger to stop the firing sequence, or re-engage rearward pressure on the trigger to continue the firing sequence. It is our opinion that this device submitted is only a trigger reset device, nevertheless it has been submitted for your classification.

Definitions:

COLT COMPETITION SME CCR 012176

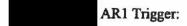
A firearm: 18 U.S.C. § 921(a)(3), the Gun Control Act of 1968 ("GCA") defines the term "firearm" to include "any weapon (including a starter gun) which will or is designed to or may be readily converted to expel a projectile by the action of an explosive, the frame or receiver of any such weapon..."

A machinegun: 26 U.S.C. § 5845(b), the National Firearms Act, Title II of the GCA ("NFA"), defines "machinegun" to include "any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger. This term shall also include the frame or receiver of any such weapon, any part designed and intended solely and exclusively, or combination of parts designed and intended, for use in converting a weapon into a machinegun, and any combination of parts from which a machinegun can be assembled if such parts are in the possession or under the control of a person." (The mechanical function of the AR1 trigger does not fall within the definition of "machinegun" under the NFA.)

ATF has previously interpreted the phrase "single function of the trigger" to mean a single movement of the trigger, whether that movement is the *pull* of the trigger or the *release* of the trigger. A trigger "functions" by causing the firing sequence to begin. This could be described as the release of a hammer or a striker.

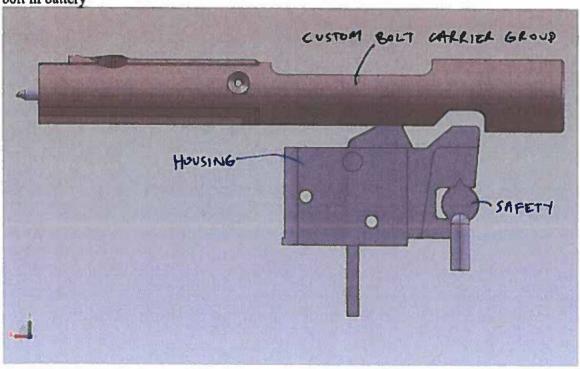
Consequently, if the firearm or device will allow more than one shot to fire when the trigger is pulled or when the trigger is released, then the firearm would have the capability to fire more than one shot by the single function of the trigger. This would make the firearm a machinegun as defined.

The AR1 trigger is specifically designed to only fire a single round on each rearward movement of the trigger. All of the components of the AR1 trigger are newly designed and include a bolt, housing, trigger, hammer, sear, springs and pins. These components interact in a manner which, upon pulling the trigger, the hammer is released from the sear firing a single round. In layman's terms, following is the firing sequence:

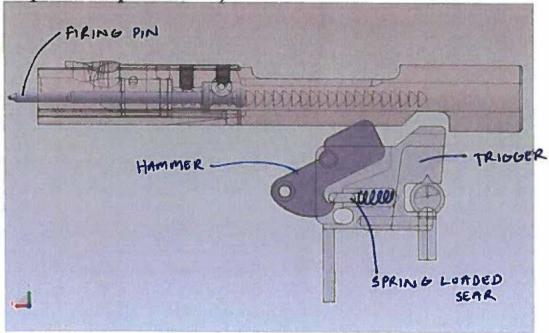


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We start with the trigger in the forward position and the hammer in the cocked position, with the bolt in battery

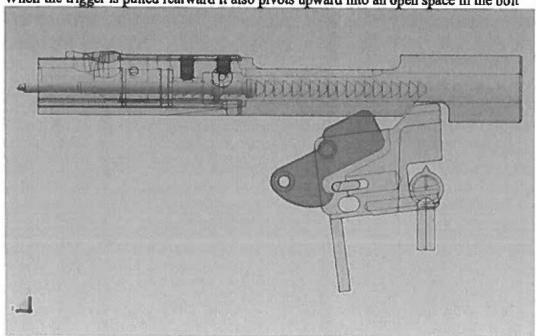


(In the rest of the images, not all parts are shown in all images and some are shown as transparent to clarify the interactions)

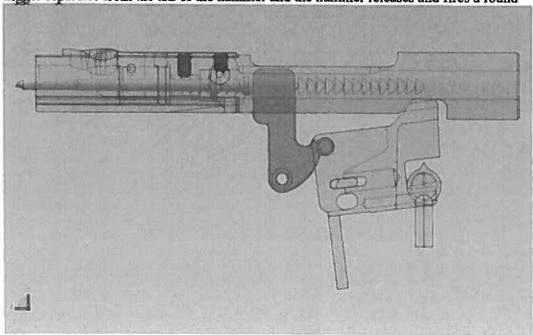


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When the trigger is pulled rearward it also pivots upward into an open space in the bolt



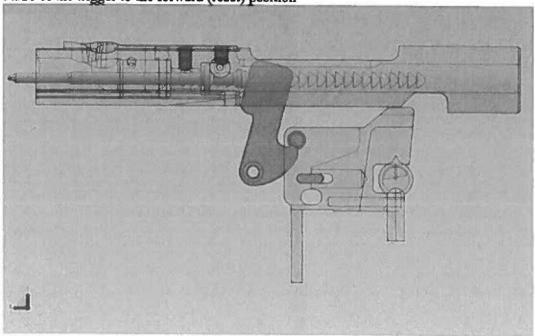
As the trigger pivots back and up into the open space in the bolt, the sliding sear surface in the trigger separates from the tail of the hammer and the hammer releases and fires a round



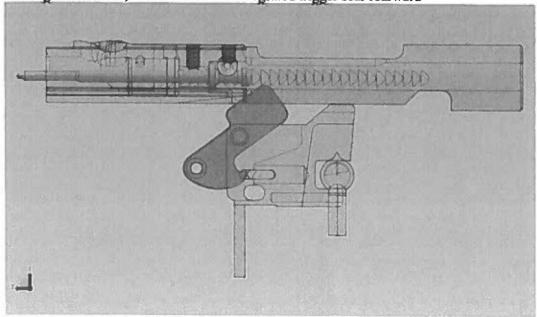


4

The explosion of the bullet causes the bolt to move in a rearward direction. As the bolt moves rearward it contacts the top of the trigger and forces the top of the trigger down, pivoting the blade of the trigger to the forward (reset) position

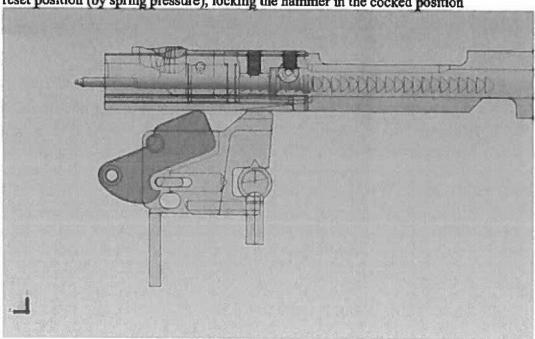


At this point the trigger is in the forward (unpulled) position. The bolt continues rearward cocking the hammer, which moves the integrated trigger sear rearward

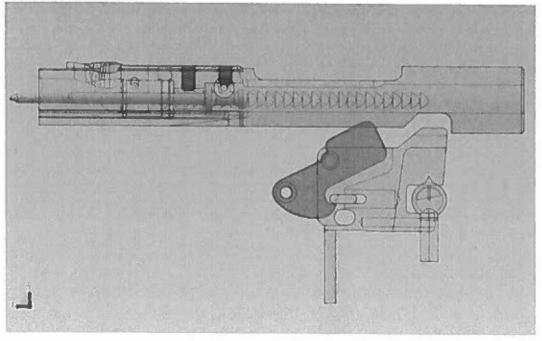


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At the rear of the bolt's stroke the hammer is cocked and the trigger sear is forced forward into a reset position (by spring pressure), locking the hammer in the cocked position



The bolt returns forward to battery and the hammer is now cocked against the trigger ready to fire the next round



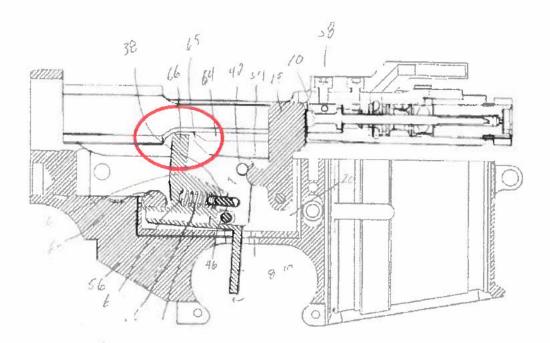
6

This is not an automatic sear, nor a conversion device. An automatic sear or a conversion device depends on a captured hammer that is tripped in some manner. This allows repetitive firing once the trigger is pulled rearward and the trigger remains in the pulled rearward position. The AR1 trigger is a trigger finger reset device. The sequence of operation is designed so that when a shooter pulls the trigger and the weapon is fired, the trigger mechanically resets the user's trigger finger back to the original firing position. After the round has been fired, the trigger cannot be pulled during any part of the duration of the stroke of the bolt until the bolt has returned to battery. This ends the firing sequence or allows the user to mentally exert additional rearward pressure on the trigger to restart the firing sequence by pulling the trigger again. The design of the trigger mechanism is such that if the user maintains excessive rearward finger pressure on the trigger, the bolt's ability to return to battery will be impeded. The purpose and design of this device is to aid the user to fire a consecutive shot.

Conclusion:

It is our opinion that this is not a device designed or intended to create automatic fire. If you have any questions or need additional information I have authorized Rick Vasquez of Rick Vasquez Firearms LLC to act on my behalf. Rick Vasquez can be reached at Thank you in advance for your efforts and we look forward to hearing your opinion.

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This illustration depicts how the parts interact.

No.66 is the extension of the trigger that rests in the bolt cam.

No. 28 is the portion of the trigger that interacts with the user's finger.

No. 38 is the spring loaded sear.

No. 18 is the hammer.

From:

Richard Vasquez

To:

Fire Tech

Subject: Date: Re: US Patent Information Evaluation 307385 Monday, November 27, 2017 3:52:40 PM

The patent for the general mechanism is:

Flex-Fire technology

US 9568264

This patent was published (approved) Feb 14, 2017.

Sincerely,

Richard Vasquez Rick Vasquez Firearms, LLC 235 Deer Creek Road Winchester, VA

Phone

Email:

On Mon, Nov 27, 2017 at 2:38 PM, <Fire.Tech@usdoj.gov> wrote:

Our office is currently reviewing a submission from (AR1 trigger) which appears to include a patent drawing. Has a patent been applied for on this device and if so, what would be the Name and patent number?

Thank you, FTISB

Attendented Dollner 781



(12) United States Patent

US 9,568,264 B2 (10) Patent No.:

(45) Date of Patent:

Feb. 14, 2017

(54) FLEX-FIRE TECHNOLOGY

(71) Applicant: Thomas Allen Graves, Buda, TX (US)

(72) Inventor: Thomas Allen Graves, Buda, TX (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35

U.S.C. 154(b) by 0 days.

(21) Appl. No.: 14/850,380

Sep. 10, 2015 (22)Filed:

(65)**Prior Publication Data**

US 2016/0102933 A1 Apr. 14, 2016

Related U.S. Application Data

(60) Provisional application No. 62/049,323, filed on Sep. 11, 2014.

(51) Int. Ci. F41A 19/16 (2006.01)F41A 17/46 (2006.01)F41A 3/68 (2006.01)

(52) U.S. Cl. CPC F41A 17/46 (2013.01); F41A 3/68

(2013.01); F41A 19/16 (2013.01) (58) Field of Classification Search CPC F41A 19/06; F41A 19/10; F41A 19/24;

F41A 19/32 USPC 42/69.02; 89/136 See application file for complete search history.

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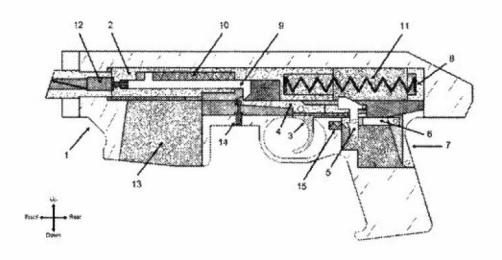
* cited by examiner

Primary Examiner - Reginald Tillman, Jr. (74) Attorney, Agent, or Firm - Timothy D. Bennett; Emerson Thomson Bennett

ABSTRACT

A handheld finger activated semi-automatic arm may include a barrel, a trigger, a moveable gun bolt and a trigger reset mechanism. The trigger reset mechanism may use rigid mechanical contact between the trigger and the gun bolt during an earliest portion of the operating cycle. The trigger may be blocked from depression by the gun bolt up to 99% of the operating cycle.

5 Claims, 3 Drawing Sheets



U.S. Patent Feb. 14, 2017 Sheet 1 of 3

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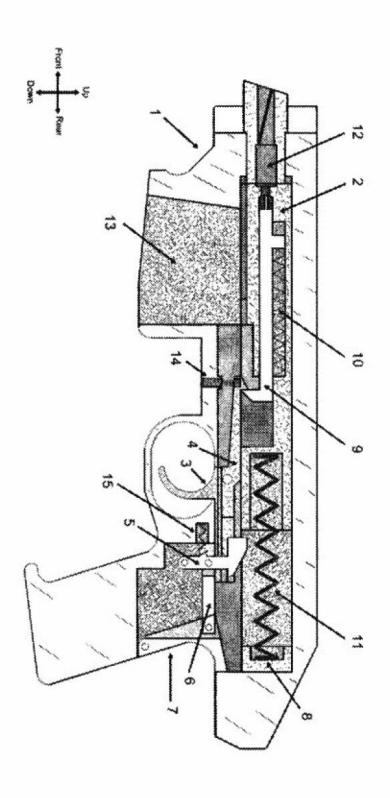


FIG. 1

U.S. Patent

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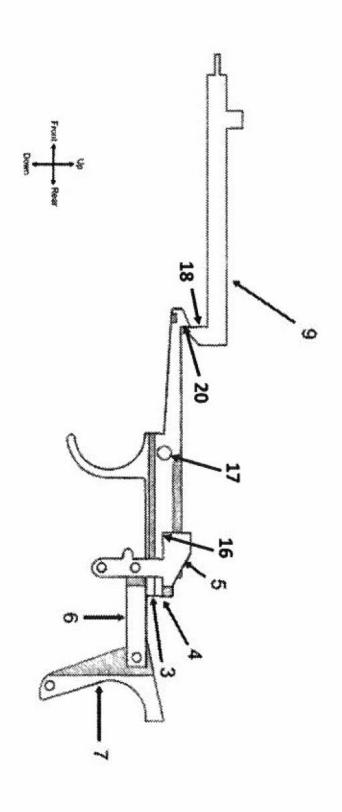


FIG. 2

U.S. Patent Feb. 14, 2017

Sheet 3 of 3

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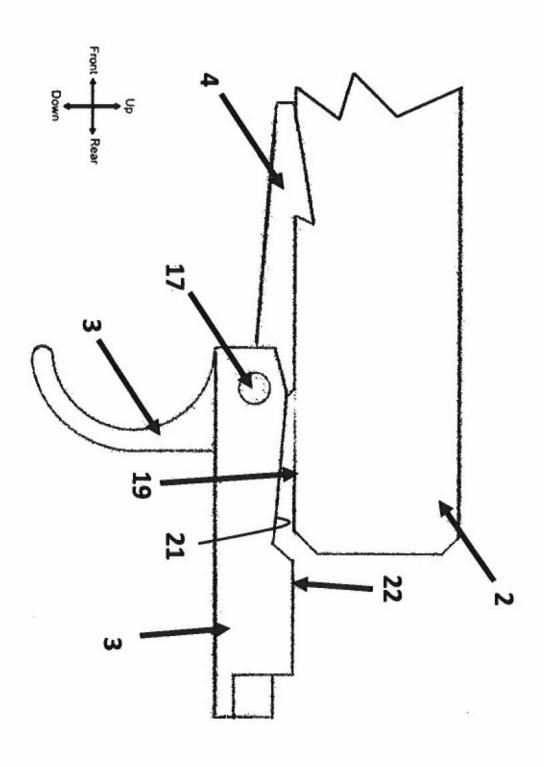


FIG. 3

I FLEX-FIRE TECHNOLOGY

This application claims priority to U.S. Ser. No. 62/049, 323, entitled FLEX-FIRE TECHNOLOGY, filed Sep. 11, 2014, which is incorporated herein by reference.

I. BACKGROUND

A. Field of the Invention

This invention is related to semi-automatic arms and more specifically is related to reciprocating gun bolt driven trigger and integrated safety mechanisms. This invention is primarily focused upon original product type integrated fire control systems of semi-automatic arms as opposed to any external attachments or auxiliary means. This invention is also primarily focused on striker fired semi-automatic arms as opposed to hammer fired semi-automatic arms.

B. Description of Related Art

In the art associated with modern trigger operated semiautomatic arms, it is desirable to secure rapid and repeated 20 shot placement.

The concept of a semi-automatic arm includes a manually activated trigger that fires once per operating cycle. An operating cycle is comprised of two gun bolt strokes. Each operating cycle requires an independent depression and reset 25 of the trigger.

Low Energy Trigger Reset

A popular finger manipulated trigger operating concept is commonly referred to as "trigger reset." This is the prevailing concept of conventional trigger operated semi-automatic arms. In this concept, a trigger is pulled to fire. After the trigger is pulled it must be released to a position of mechanical reset by spring tension before subsequent trigger operating cycles can be accomplished. A device functioning as a disconnector or an equivalent arrangement of devices is used to hold the striker/firing pin until the trigger is reset. In this case, the energy for trigger depression is supplied by the user and the energy for trigger reset is stored user energy via mechanical spring tension. In general practice, reset spring energy is relatively low in order to provide a light trigger 40 pull.

Medium Energy Trigger Reset

A medium energy trigger reset type fire control system can develop more reset stroke energy than a low energy trigger reset system without necessarily increasing trigger pull weight. In a medium energy trigger reset system some fraction of energy transferred from a moving gun bolt is transmitted ultimately to a trigger. This energy increase of the trigger reset is taken from gun bolt operation energy, not trigger depression energy.

Trigger depression energy may be very low (indicating a light trigger pull) while having a relatively faster and/or stronger trigger reset event than otherwise possible. A characteristic of this system is that if one pulls a trigger forcefully enough it will not reset automatically because gun bolt 55 energy is transmitted through a disconnector and then through the trigger that is separated by a spring of higher resistance than the usual trigger reset spring. If force on the trigger exceeds the resistance of this spring then the trigger will not reset but the disconnector will function regardless. 60

II. SUMMARY

This Summary is provided to introduce a selection of concepts in a simplified form that are further described 65 below in the Detailed Description. This Summary is not intended to identify key factors or essential features of the

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claimed subject matter, nor is it intended to be used to limit the scope of the claimed subject matter.

It is possible by the application of Flex-Fire Technology (FFT) to have a high energy trigger reset system. A high energy trigger reset system implies a trigger that is reset by direct mechanical reaction to a gun bolt without the necessity of a spring system limiting trigger reset energy. Such a system can easily have more trigger reset energy than a finger can apply within a broad range of practical concern. This can assure a more certain reset event under more diverse conditions than is otherwise possible, and also allows for further design flexibilities that were previously unobtainable. The FFT reset system is capable of maximized trigger reset energy and trigger spring weight is independent of trigger reset energy. FFT can provide the basic advantages of true high energy trigger reset technology within the context of a trigger operated semi-automatic arm suited for industry wide applications.

According to some embodiments of this invention, a handheld finger activated semi-automatic arm may comprise: a frame; a chamber face that is supported to the frame and that comprises a barrel; a trigger that is depressible to fire the arm once per operating cycle; a gun bolt that is movable rearward and forward with respect to the frame; and, a trigger reset mechanism comprising rigid mechanical contact between the trigger and the gun bolt during an earliest 50% of the operating cycle. The trigger may be blocked from depression by the rigid mechanical contact between the trigger and the gun bolt up to 99% of the operating cycle.

According to other embodiments of this invention, a handheld finger activated semi-automatic arm may comprise: a frame; a chamber face that is supported to the frame and that comprises a barrel; a trigger that is depressible to fire the arm once per operating cycle; and, a gun bolt that is movable with respect to the frame rearward away from the chamber concurrent with the trigger being positively mechanically reset. The trigger may be blocked from depression until up to 99% of the operating cycle.

According to still other embodiments of this invention, a handheld finger activated semi-automatic arm may also comprise: a safety lock that engages a sear surface on a disconnector to prevent trigger depression.

According to yet other embodiments of this invention, a handheld finger activated semi-automatic arm may also comprise: a striker having an integrated sear surface; a striker biasing member that biases the striker toward a forward position; a disconnector having: a first sear surface in contact with the striker sear surface; a second sear surface; and, a pivot that is rearward of the striker sear surface and forward of the disconnector second sear surface; and, a safety lock that is adjustable between: a locked condition which prevents the trigger from being depressed and an unlocked condition which permits the trigger to be depressed. The safety lock may contact the disconnector second sear surface when the safety lock is in the locked condition. The safety lock may be out of contact with the disconnector second sear surface when the safety lock is in the unlocked condition. The arm may be operable when the safety lock is in the unlocked condition by depressing the trigger to pivot the disconnector about the disconnector pivot, to move the first disconnector sear surface out of contact with the striker sear surface, to enable the striker biasing member to force the striker to fire the arm.

According to other embodiments of this invention, a handheld finger activated semi-automatic arm may also comprise: a striker having an integrated sear surface; and, a

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striker biasing member that biases the striker toward a forward position. When the gun bolt is moving forward, the striker compresses the striker biasing member.

According to still other embodiments of this invention, a handheld finger activated semi-automatic arm may also 5 comprise: a striker having an integrated sear surface at a rearward end; and, a striker biasing member that is positioned above or beside the striker from a lengthwise perspective. The striker and striker biasing member may be charged only as the gun bolt moves forward toward the 10 chamber face.

According to yet other embodiments of this invention, a handheld finger activated semi-automatic arm may comprise: a frame; a chamber face that is supported to the frame sear surface at a rearward end; a striker biasing member that is positioned above or beside the striker from a lengthwise perspective; a gun bolt that is movable rearward and forward with respect to the frame; and, a trigger that is depressible to fire the arm. The striker and striker biasing member may 20 be charged only as the gun bolt moves forward toward the chamber face.

Numerous benefits and advantages of this invention will become apparent to those skilled in the art to which it pertains upon reading and understanding of the following 25 detailed specification.

III. BRIEF DESCRIPTION OF THE DRAWINGS

The invention may take physical form in certain parts and 30 arrangement of parts, embodiments of which will be described in detail in this specification and illustrated in the accompanying drawings which form a part hereof and wherein:

FIG. 1 is a side view, in partial cutaway, showing an arm 35 equipped with embodiments of the Flex-Fire Technology of this invention.

FIG. 2 shows portions of the arm of FIG. 1 separated for clarity.

FIG. 3 shows portions of an arm with components similar 40 to those shown in FIG. 1 but with numerous components removed for clarity. The gun bolt is shown in the full frontward position and the trigger is shown in the nondepressed position.

IV. DETAILED DESCRIPTION

Referring now to the drawings wherein the showings are for purposes of illustrating embodiments of the invention only and not for purposes of limiting the same, and wherein 50 like reference numerals are understood to refer to like components, following is a list of components according to some embodiments of this invention:

- 1: A frame (stationary part)
- 2: A gun bolt (reciprocating type)
- A trigger
- 4: A disconnector (integrated safety sear type)
- 5: A safety lock
- 6: A safety transfer bar
- 7: A safety paddle (engagement device)
- 8: A buffer (elastic bushing type)
- 9: A striker (integrated sear type)
- 10: A striker biasing member which may be a spring (helical compression type)
- 11: A main recoil biasing member which may be a spring 65 2 (helical compression type)
- 12: A chamber face (barrel and chamber assembly)

13: A magazine (standard box magazine—details omitted for clarity)

14: A disconnector biasing member which may be a spring (helical compression type)

15: A safety biasing member which may be a spring (helical compression type)

16: Sear surface of disconnector 4

18: Sear surface of striker 9

19: Bottom surface of gun bolt 2

20: Sear surface of disconnector 4

21: Space between gun bolt 2 and trigger 3

22: Top surface of trigger 3

With reference now to FIGS. 1, 2 and 3, Flex-Fire and that comprises a barrel; a striker having an integrated 15 Technology (FFT), is designed to fire common cartridge type ammunition (not shown) from within chamber 12. The system is operated by hand and trigger 3 is finger activated by depressing trigger 3 in the rearward direction. In order to initiate an operational cycle from the loaded chamber 12, safety paddle 7 may be depressed towards the chamber 12 by user energy. This depression moves safety transfer bar 6 against biasing member 15 and simultaneously pivots safety lock 5 towards the chamber 12 (clockwise). When the safety lock 5 is depressed to a given extent, it swings clear of sear surface 16 on the disconnector 4. Once the disconnector 4 and trigger 3 are free to swing upwards (counterclockwise) the FFT is ready to fire a cartridge.

Depression of the trigger 3 by a user will now result in a cartridge being fired and an operational cycle to be completed to the extent of reloading chamber 12 from magazine 13 in preparation for a subsequent depression of the trigger 3. Reloading details have been omitted for clarity.

Upon depression of the trigger 3, the trigger 3 and the disconnector 4 will pivot upwards (counterclockwise) about pivot 17 farthest from the chamber 12. Note in FIG. 3 the space 21 between the top of the trigger 3 and the bottom of the gun bolt 2 that provides room for this pivoting motion when the gun bolt 2 is positioned forward. The disconnector 4 acts against a disconnector biasing member 14 and is pulled downward at any point forward of the trigger pivot 17. As the disconnector 4 breaks contact with sear surface 18 on striker 9, striker 9 will react against striker biasing member 10 and fire a cartridge via stored kinetic energy.

Ultimately, as a cartridge is fired and a bullet is propelled 45 away from the gun bolt 2, subsequent recoil energy pushes the cartridge case away from the chamber 12—pushing the gun bolt 2 rearwardly in the process. During this movement the cartridge case will travel at least its own original length while in direct contact with the gun bolt 2 and then it will be ejected in the usual manner, which has been omitted for clarity. The ejection function, including the compression of main recoil biasing member 11, is performed in parallel with overall fire control group reset.

During the earliest rearward movement of the gun bolt 2, 55 the trigger 3 is forced to reset by interference contact with the gun bolt 2. Specifically, in one embodiment shown in FIG. 3, bottom surface 19 of the gun bolt 2 contacts upper surface 22 of the trigger 3 as the gun bolt 2 moves rearward. The gun bolt 2 may then hold down the trigger 3 throughout the remaining rearward movement. During this movement the disconnector 4 is elastically displaced (compressing disconnector biasing member 14) as striker 9 passes over it. When the gun bolt 2 has reached its most rearward position, the trigger 3 is already reset and held in place by the gun bolt

As the gun bolt 2 begins to move frontward towards the chamber 12 under force from recoil biasing member 11,

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disconnector 4 sear surface 20 will catch the sear surface 18 of the striker 9 and begin to react against a striker biasing member 10. A new cartridge is simultaneously stripped from a magazine 13 and begins to be pushed by the gun bolt 2 towards the chamber 12. When the gun bolt 2 arrives at its 5 most forward position, a new cartridge will have been loaded in the chamber 12 and the trigger 3 will be clear of interference with the gun bolt 2. This completes a single operating cycle of two strokes. One complete operating cycle is considered 100% of the operating cycle. Subsequent operating cycles can be initiated by subsequent depressions of the trigger 3. Note that in some embodiments, such as shown in FIG. 3, the trigger 3 is blocked from depression by the rigid mechanical contact between the trigger 3 and the gun bolt 2 up to 99% of the operating cycle. The precise percent of the operating cycle can be adjusted to other percentages by a person of skill in the art. Elaborations

The striker 9 is energized as the gun bolt 2 returns to a 20 prising: most forward position effectively reducing secondary rebound from the chamber face 12.

The trigger 3 may be positively mechanically reset approximately as early as the first 10% of the operating cycle. This may give the user the longest possible time to 25 sense and/or react to the reset event without increasing the overall time between operating cycles.

Clearances between the interference of the trigger 3 and the gun bolt 2 may be adjusted to allow the trigger 3 to be depressed slightly before the most forward movement of the 30 gun bolt 2. In rapid fire operation, this allows for lower "running" trigger pull weight and concurrently shorter striker strokes. Earlier trigger 3 depression results in a shorter striker 9 stroke. The striker biasing member 10 compression is proportionate to the length of striker 9 stroke. 35 claim 1 further comprising:

The safety system may automatically lock the trigger 3, the disconnector 4 and the gun bolt 2 simultaneously with a single safety lock 5 upon release of the safety paddle 7 that reacts against safety biasing member 15. The trigger 3 and the disconnector 4 are locked via hook function of the safety 40 lock 5.

When the safety lock 5 is in a locked position, a gun bolt 2 can be in interference with the safety lock 5 and therefore cannot be pulled rearward to cycle a gun bolt 2. In this case, manual operation of the gun bolt 2 requires the safety paddle 45 7 to be depressed in order to unlock the gun bolt 2. Ramifications

Self-preservation is the ultimate common determinant of human demands and world history has most certainly indicated that the biggest threat to human beings is found within 50 the same species. The need for more and more advantageous means to defend interest and project interest should be well understood by many people of all cultures familiar to international trade and influence. History also indicates that many, if not the majority of those human versus human 55 threats are acted out at close range with various types of combat tools.

Pistols, carbines, and rifles are primary tools of survival within the scope of modern civilization. These tools are among the most desirable close range fighting tools and are 60 totally indispensable within the context of a civilization of free persons. All free people demand an ability to control and apply the most effective means of self-defense possible.

Flex-Fire Technology is devised to provide a free people a practical means to more effectively defend or project 65 interest at close ranges against other highly developed combat tools that may be applied against them.

This technology provides the potential of increasing both the rate of fire and the precision of fire at higher rates beyond the fundamental design capabilities of pre-existing semi-

Numerous embodiments have been described herein. It will be apparent to those skilled in the art that the above methods and apparatuses may incorporate changes and modifications without departing from the general scope of this invention. It is intended to include all such modifications and alterations in so far as they come within the scope of the appended claims or the equivalents thereof. Further, the "invention" as that term is used in this document is what is claimed in the claims of this document. The right to claim elements and/or sub-combinations that are disclosed herein as other inventions in other patent documents is hereby unconditionally reserved.

Having thus described the invention, it is now claimed:

- 1. A handheld finger activated semi-automatic arm com
 - a frame;
 - a chamber face that is supported to the frame and that comprises a barrel;
 - a trigger that is depressible to fire the arm once per operating cycle;
 - a gun bolt that is movable rearward and forward with respect to the frame;
 - a trigger reset mechanism comprising rigid mechanical contact between the trigger and the gun bolt during an earliest 50% of the operating cycle; and,
 - wherein the trigger is blocked from depression by the rigid mechanical contact between the trigger and the gun bolt up to 99% of the operating cycle.
 - 2. The handheld finger activated semi-automatic arm of
 - a safety lock that engages a sear surface on a disconnector to prevent trigger depression.
 - 3. The handheld finger activated semi-automatic arm of claim 1 further comprising:
 - a striker having an integrated sear surface;
 - a striker biasing member that biases the striker toward a forward position;
 - a disconnector having: a first sear surface in contact with the striker sear surface; a second sear surface; and, a pivot that is rearward of the striker sear surface and forward of the disconnector second sear surface;
 - a safety lock that is adjustable between: a locked condition which prevents the trigger from being depressed and an unlocked condition which permits the trigger to be depressed;
 - wherein the safety lock contacts the disconnector second sear surface when the safety lock is in the locked condition:
 - wherein the safety lock is out of contact with the disconnector second sear surface when the safety lock is in the unlocked condition; and,
 - wherein the arm is operable when the safety lock is in the unlocked condition by depressing the trigger to pivot the disconnector about the disconnector pivot, to move the first disconnector sear surface out of contact with the striker sear surface, to enable the striker biasing member to force the striker to fire the arm.
 - 4. The handheld finger activated semi-automatic arm of claim 1 further comprising:
 - a striker having an integrated sear surface;
 - a striker biasing member that biases the striker toward a forward position; and,

7

wherein when the gun bolt is moving forward the striker compresses the striker biasing member.

- 5. The handheld finger activated semi-automatic arm of claim 1 further comprising:
 - a striker having an integrated sear surface at a rearward 5 end:
 - a striker biasing member that is positioned above or beside the striker from a lengthwise perspective; and, wherein the striker and striker biasing member are

charged only as the gun bolt moves forward toward the 10 chamber face.

minoci face.

8





U.S. Department of Justice

Bureau of Alcohol, Tobacco, Firearms and Explosives

Martinsburg, WV 25405

www.atf.gov

AUG 2 8 2018

907010: RKD 3311/307385



Dear Sir,

This is in reference to your submission and accompanying correspondence to, Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), Firearms Technology Industry Services Branch (FTISB). accompanied by an AR-15 type rifle equipped with what is described as the trigger system (see enclosed photos). Specifically, you requested an examination and classification of this sample with regard to the amended Gun Control Act of 1968 (GCA) and the National Firearms Act (NFA).

As you know, the National Firearms Act (NFA), 26 U.S.C. § 5845(b), defines the term "machinegun" as-

...any weapon which shoots, is designed to shoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger. The term shall also include the frame or receiver of any such weapon, any part designed and intended solely and exclusively, or combination of parts designed and intended, for use in converting a weapon into a machinegun, and any combination of parts from which a machinegun can be assembled if such parts are in the possession or under the control of a person,

As specified in the GCA, 18 U.S.C. § 921(a)(23), the term "machinegun" has "the meaning given such term in section 5845(b) of the National Firearms Act (26 U.S.C. 5845(b)).

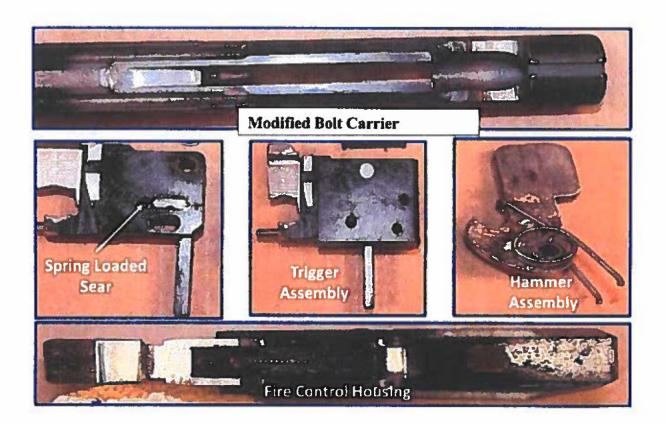
The submitted AR1, is described as a "trigger-finger reset device". You further describe the design and function of the device by explaining that "this trigger system works by mechanically pushing the trigger rapidly forward, resetting the finger and trigger to the forward

positon. This allows the user to make a decision in which they leave rearward pressure off the trigger to stop the firing sequence, or re-engage rearward pressure on the trigger to continue the firing sequence." As a part of this description, you note that all of the components of the AR1 trigger are newly designed and include a bolt, housing, trigger, hammer, sear, springs and pins. FTISB notes that US Patent 9568264 (Flex-fire technology) covers the device, which is described as a technology to provide the potential of increasing both the rate of fire and the precision of fire at higher rates beyond the fundamental design capabilities of pre-existing semi-automatic arms.

Also, your correspondence notes that ATF has previously interpreted the phrase "single function of the trigger" to mean a single movement of the trigger, whether that movement is the pull of the trigger or the release of the trigger and it is your opinion that this device submitted is only a trigger reset device and not a "machinegun" as defined.

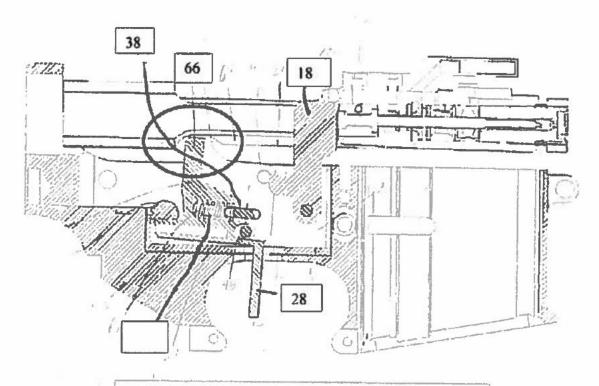
The sample examined by FTISB personnel consists of a Colt Competition .223/5.56 caliber AR-15 pattern rifle, serial number CCR012176, which is equipped with the following items:

- Modified bolt carrier.
- Newly constructed hammer assembly.
- Newly constructed fire control housing.
- Newly constructed trigger assembly having steel block mounted on rear of assembly.
- Newly constructed spring loaded sear assembly.
- Miscellaneous retaining axles/screws, plungers/springs.



Provided illustration of

ARI Trigger Device.



This illustration depicts how the parts interact.

No 66 is the extension of the trigger that rests in the bolt cam

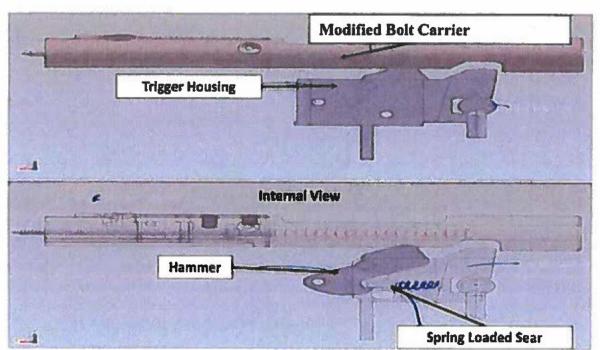
No 28 is the portion of the trigger that interacts with the user's finger

No 38 is the spring loaded sear

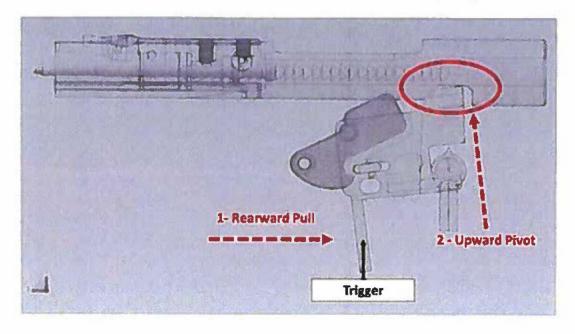
No 18 is the hammer.

The written correspondence received from with the sample, provided the following statements and pictures offering a description of how the device differed in function from that of a standard unmodified AR-15 pattern rifle [Note: FTISB updated the pictures relevant to FTISB's analysis of the ARI]:

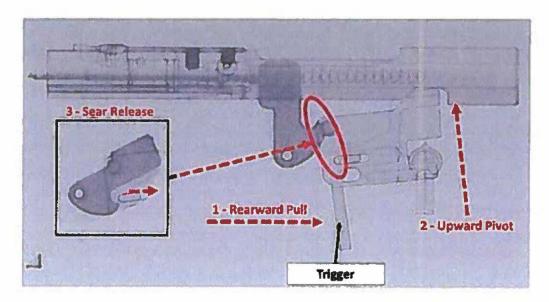
[&]quot;We start with the trigger in the forward position and the hammer in the cocked position, with the bolt in battery."



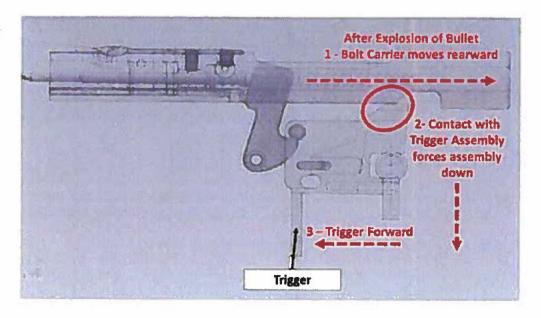
"When the trigger is pulled rearward it also pivots upward into an open space in the bolt.



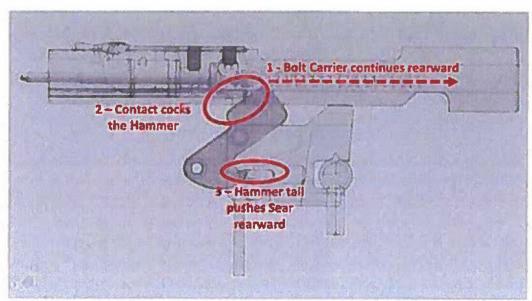
"As the trigger pivots back and up into the open space in the bolt, the sliding sear surface in the trigger separates from the tail of the hammer and the hammer releases and fires a round."



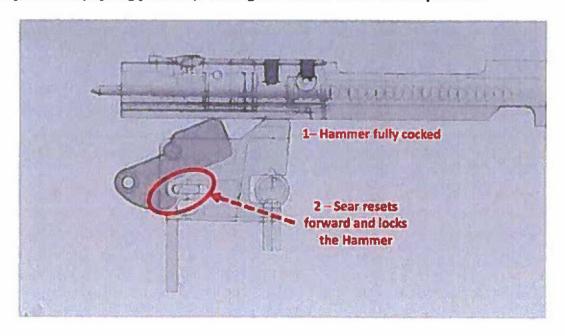
"The explosion of the bullet causes the bolt to move in a rearward direction. As the bolt moves rearward it contacts the top of the trigger and forces the tip of the trigger down, pivoting the blade of the trigger to the forward (reset) position."



"At this point the trigger is in the forward (un-pulled) position. The bolt continues rearward cocking the hammer, which moves the integrated trigger sear rearward". [We note that the shooter maintains a constant rearward pull on the trigger and the internal mechanism automatically forces the individual's finger/trigger forward instead of requiring that the shooter release the trigger.]

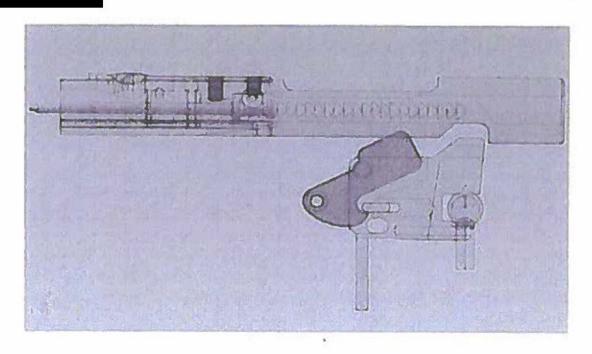


"At the rear of the bolt's stroke the hammer is cocked and the trigger sear is forced forward into a reset position (by spring pressure), locking the hammer in the cocked position."



"The bolt returns to battery and the hammer is now cocked against the trigger ready to fire the next round".

As explained below, a single constant rearward pull will cause the firearm to fire until the trigger is released, the firearm malfunctions, or the firearm exhausts its ammunition supply.



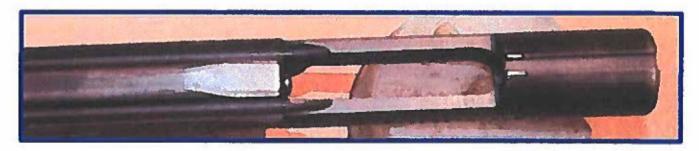
Submitted Sample Rifle



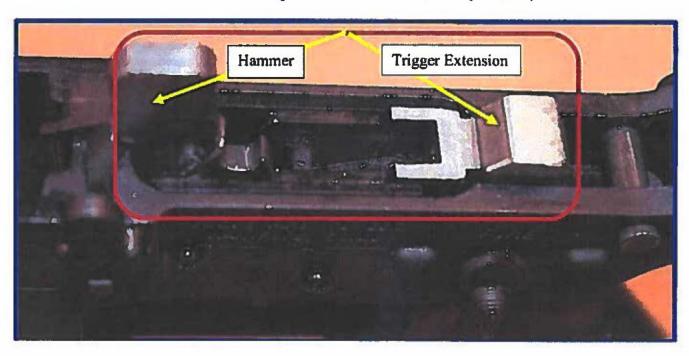
Sample modified bolt carrier showing added contact surface that interfaces with trigger.



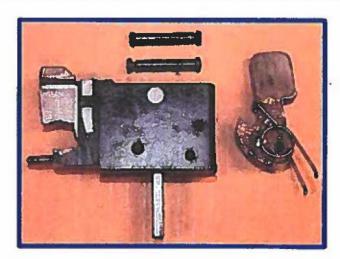
FTCB exemplar standard bolt carrier.



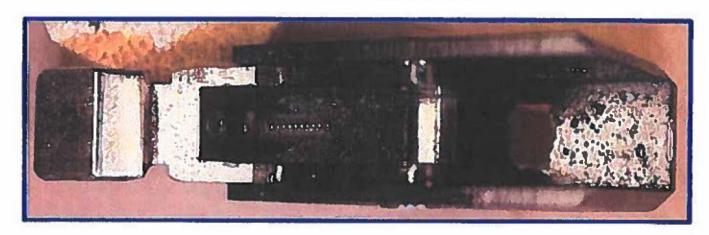
Internal View - Sample fire control mechanism (installed).



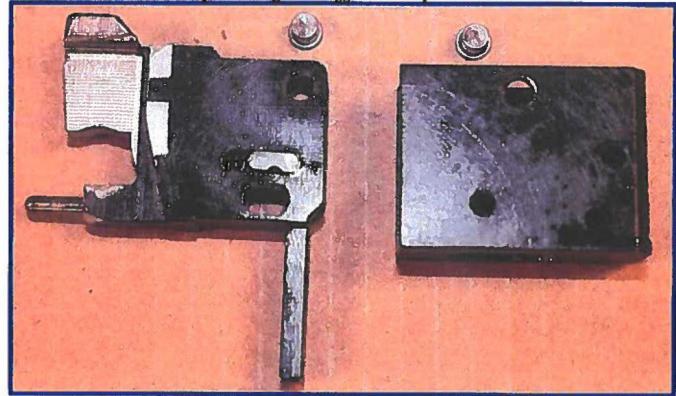
Sample fire control mechanism with the bolt carrier removed from firearm.



Overhead view of fire control mechanism



Sample housing with trigger assembly removed.



Sample

AR1 fire control mechanism installed in AR-15 type firearm.



As a part of this examination, FTISB conducted initial manual field-testing of the sample. The field test revealed that when the trigger was pulled with sufficient force to release the hammer, and the shooter maintains constant pressure on the trigger, the firearm expelled a projectile, extracted and ejected the casing, loaded another round, and fired. This continued until the trigger was released. A test fire with live ammunition resulted in the firearm shooting automatically more than one shot, without manual reloading, by a single function of the trigger.

Additionally, during the finger activated firing sequences (with the trigger finger retained in a constant position), after firing several cartridges the sear failed to retain the hammer, which simply followed the bolt forward leaving a substantial firing pin mark on the primer of the chambered cartridge without firing the cartridge.

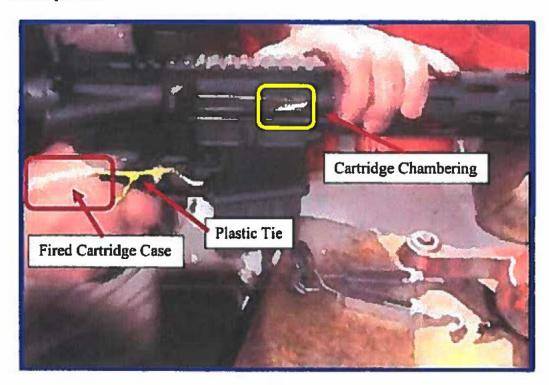
Photo of FTISB test cartridge removed from sample after hammer follow incident.





In order to demonstrate the sample fired more than one shot, without manual reloading, with a single function of the trigger, rather than firing a single shot with each function of the trigger, the following procedure was followed.

- A common 8-inch zip-tie was installed around the rear of the grip and the front of the sample's trigger.
- The zip-tie was gradually tightened until the trigger was retracted just enough to release the hammer.
- With the trigger retained in this position, the bolt assembly was retracted and retained in an open position, with the aid of the bolt catch.
- A ten-round ammunition load was placed into the sample's magazine, and the magazine was inserted into the firearm.
- Without touching the trigger (which was being retained in a fixed position by
 the plastic zip-tie), the bolt catch was depressed allowing the firearms bolt to
 travel forward and chamber a cartridge. Upon chambering and firing the first cartridge, the
 weapon cycled and fired five cartridges automatically without the trigger being released. The
 sear also failed to retain the hammer on the 6th cartridge, but did not strike the primer with
 sufficient force to fire that cartridge, thereby stopping the firing sequence.
- This same test was repeated several times with the sample firing from three to ten cartridges with a single function of the trigger before a malfunction was encountered or the ammunition load expended.



The previous still image extracted from a video of the FTISB test fire shows cartridge chambering in the yellow box and one of the ejected cartridges in the red box. Note that additional ejected cartridge cases are out of frame and trigger is retained with zip-tie and not in contact with finger.

Federal law defines "machinegun," in relevant part, as "any weapon which shoots, is designed to Ishoot, or can be readily restored to shoot, automatically more than one shot, without manual reloading, by a single function of the trigger" as well as a "combination of parts designed and intended, for use in converting a weapon into a machinegun." Legislative history for the NFA indicates that the drafters equated a "single function of the trigger" with "single pull of the trigger." National Firearms Act: Hearings Before the Comm. on Ways and Means, House of Representatives, Second Session on H.R. 9066, 73rd Cong., at 40 (1934). Therefore, as you note, ATF has long held that a single function of the trigger is a "single pull" or alternatively, a single release of a trigger. Therefore, a firearm is not a machinegun if a projectile is expelled when the trigger is pulled and a second projectile is expelled when the trigger is released.

As stated above, your own description of the AR1 trigger system includes the following statements, "this trigger system works by mechanically pushing the trigger rapidly forward, resetting the finger and trigger to the forward position. This allows the user to make a decision in which they leave rearward pressure off the trigger to stop the firing sequence, or reengage rearward pressure on the trigger to continue the firing sequence."

Federal courts have noted that automatically means that the weapon "fires repeatedly with a single pull of the trigger." Staples v. United States, 511 U.S. 600, 602 n. 1 (1994). "That is, once its trigger is depressed, the weapon will automatically continue to fire until its trigger is released or the ammunition is exhausted." Id. Courts have specifically affirmed ATF's interpretation that a single act of the shooter to initiate the firing sequent is a single function of the trigger. Akins v. United States, 312 F. App'x 197, 200 (11th Cir. 2009); Freedom Ordnance Mfg., Inc. v. Brandon, No. 3:16-cv-00243-RLY-MPB (S.D. Ind. Mar. 27, 2018). United States v. Fleischli, 305 F.3d 643, 655 (7th Cir. 2002)(in which electronic switch was the trigger when it served to initiate the firing sequence and the minigun continued to fire until the switch was turned off or the ammunition was exhausted). In the Freedom Ordnance case, the United States District Court of Indiana confirmed that ATF was not arbitrary and capricious in the classification of an "electronic reset assist device" as a machinegun even though the firearm's trigger reset before each shot by pushing the shooter's finger forward. Freedom Ordnance Mfg., Inc, No. 3:16-cv-00243-RLY-MPB. In these cases, a firearm is a machinegun when an internal mechanism or operation automatically forces the individual's finger forward instead of requiring that the shooter release the trigger.

FTISB testing indicated that continuous rearward pressure after the initial pull of the trigger initiates a "firing sequence" which discharges multiple rounds with a single function of the trigger. A device with a trigger that is mechanically forced forward during a cycle of operation or firing sequence, which results in more than one round being fired with a "single function of a trigger," is a machinegun. This type of operation is distinguishable from firearms that have not been classified as machineguns, including those that fire one round when the trigger is manually released.

The AR1 is a device which is designed to assist in preventing the hammer from positively resetting (requiring that the shooter release the trigger in order to fire the next round) and causes a firearm to shoot automatically more than one shot, without manual reloading, by a single function of the trigger. This device is a, combination of parts designed and intended, solely and exclusively, for use in converting a weapon into a machinegun; thus a "machinegun" as defined in 26 U.S.C. § 5845(b).

Additionally, note that on several occasions during the testing of this device, the hammer was found to have followed the bolt into battery as it chambered a cartridge. FTISB has also evaluated similar devices, which have prevented the trigger from positively resetting and resulted in such a "hammerfollow" scenario. A device designed to prevent the hammer from positively resetting could cause a firearm to shoot automatically more than one shot, without manual reloading, by a single function of the trigger, and would also be classified as a combination of parts designed and intended, solely and exclusively, for use in converting a weapon into a machinegun; thus a "machinegun" as defined in 26 U.S.C. 5845(b).

Consequently, the submitted sample AR1 trigger assembly equipped firearm is a "machinegun" as defined in the NFA, and is subject to all NFA provisions. In addition, the sample AR1 trigger assembly parts are a combination of parts designed and intended, for use in converting a weapon into a machinegun, and as such, in and of themselves, would be defined as a "machinegun" and subject to all NFA provisions.

The GCA prohibits the possession or transfer of any machinegun manufactured after May 19, 1986 with the limited exceptions of transfers to or by the government, and possession under the authority of the government. See 18 U.S.C. § 922(o). Based on these exceptions, Type 07 (manufacturer) and Type 08 (importer) Federal firearms licensees to manufacture or import firearms after May 19, 1986 for sale or distribution to the government. Because you are a 07/02 FFL/SOT, ATF will return the AR1 trigger device equipped firearm upon receipt of a prepaid common carrier shipping label or FedEx shipping account billing number. Please be advised that the firearm/device will need to be properly marked, and an ATF Form 2 submitted by the close of the following business day that you receive the sample.

We thank you for your inquiry and trust that the foregoing has been responsive.

Sincerely yours,

Michael R. Curtis

Chief, Firearms Technology Industry Services Branch

cc: Rick Vasquez Firearms LLC

Case 4:23-cv-00830-0 Document 77-14 Filed 12/01/23 Page 115 of 117 PageID 3667

From: Fire.Tech@usdaj.gov &

Subject: RE: Submission for testing and classification

Date: September 17, 2018 at 7:40 AM

To: jcrounds@gmail.com



Sir.

You can forward the shipping label or FedEx Billing number referencing work order #307385 and note that item should not be shipped until Oct3.

Thankyou.

From: Fire Tech

Sent: Monday, September 17, 2018 7:53 AM

To:

Subject: FW: Submission for testing and classification

See below.

From

Sent: Friday, September 14, 2018 3:57 PM

To: Fire Tech < Fire tech@atf.gov>

Subject: Re: Submission for testing and classification

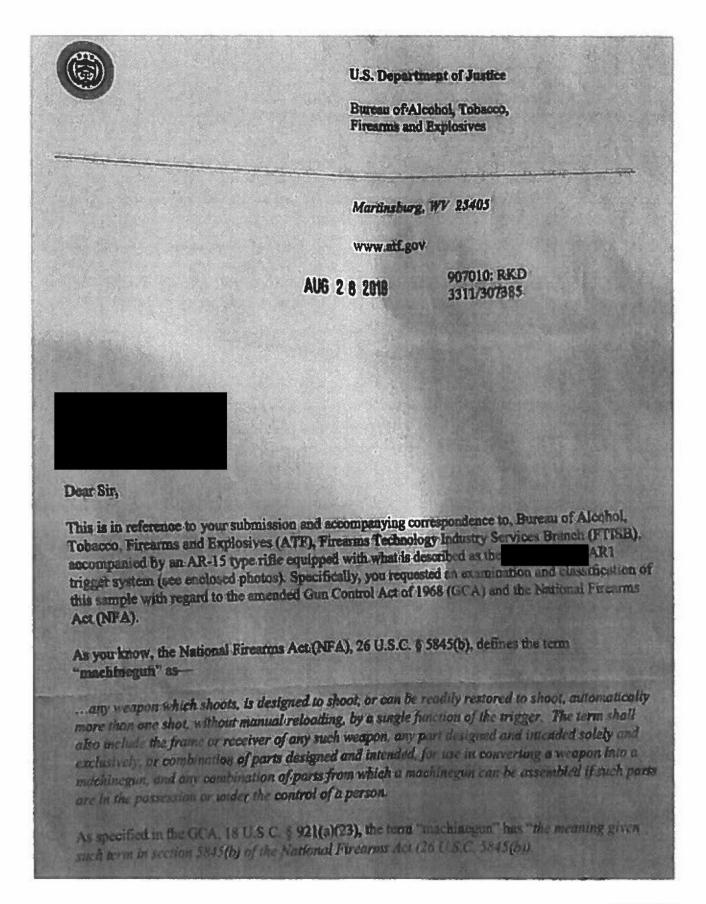
I received a ruling on this submission. Attached is a photo of the letter I received in order to reference the ID #.

Per the last page of the letter, I would like to have the sample firearm and device returned as I have an 07/02 FFL/SOT. I accidentally failed to include a prepaid return shipping label with my submission but as I said, I would like it to be returned to me.

I will be away from my FFL shipping address until Tuesday, Oct 2nd. This would not matter except per the letter, I need to submit an ATF Form 2 by the close of the following business day that I receive the sample, and I will not be able to do that until Oct 3rd.

If this is not a problem I will send a prepaid common carrier shipping label or email a Fedex shipping account billing number.

Thank you kindly,



The submuted

AR1, is described as a Trigger-Julgo result levice. You parties to describe the design and function of the device by explaining that This trigger system works by mechanically pushing the meger rapidity forward, resenting the finger and trigger to the forward.

On Aug 4, 2017, at 2:16 PM, Fire. Tech@usdoj.gov wrote:

Firearms and Ammunition Technology Division Attn: FTISB 244 Needy Road Suite 1600 Martinsburg, West Virginia 25405

----Original Message----

From:

Sent: Friday, August 4, 2017 1:26 PM To: Fire Tech < Fire tech@atf.gov>

Subject: Submission for testing and classification

Hello,

I am submitting a complete rifle for testing and classification and I would like to confirm that the following is the correct address.

Firearms and Ammunition Technology Division 244 Needy Road Suite 1600 Martinsburg, West Virginia 25405

When sending a complete rifle to this location, is signature required necessary?

Thank you,